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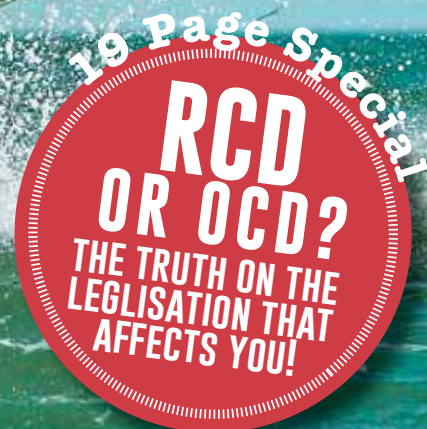


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'If you're someone who may be thinking of buying a boat, you need to know the real facts about the RCD. If you are a manufacturer or boat seller, you need to understand the real meaning and true implications regarding this complex array of legislation – its strengths as well as its limitations...'

This issue of PBR has been a true labour of love; but I'm delighted to say that all the planning, research, interviewing of people and hours good old fashioned keyboard bashing, have resulted in the biggest and most editorially rich magazine we have yet published. In fact, editorially speaking, I believe it's one of the most significant editions produced by any marine publisher within the last few years. Our 10,000 plus word 19-page 'special feature' on the Recreational Craft Directive and its category ratings is ground breaking and forms a definitive article that both trade and consumers will be able to use as an informative reference work. Its content and critique certainly promises to stimulate much discussion and I hope it will go a long way in educating everyone as to what the legislation does cover but also what it doesn't! In addition, it reveals how boats are assessed for categorisation and the difficulties associated with consistency as well as enforcement. If you are someone who may be thinking of buying a boat either now or in the foreseeable future; you need to know the real facts about the RCD. If you are a manufacturer or a boat seller, you need to understand the real meaning and true implications regarding this complex array

of legislation – its strengths as well as its limitations. After all, it's a pertinent time to give attention to this subject, as there are now less than twelve months for boat builders and the industry in general to become fully compliant with the latest version of the Directive. We also stand on the threshold of the season with the first of the 2016 boat shows kicking off in just a few days of our going to press. So we want our readers to have the benefit of being informed as well as being reminded about the importance of always thoroughly sea-trialing a boat before buying. I hope you enjoy this issue of PBR with its great mix of features, leading interviews, latest news, honest critique and stunning photography. Safe boating everyone and hope to see you on the water in the weeks to come...

HMS



HMS
Editor

WHAT'S IN NEXT ISSUE EXPECTED ON SALE 15TH APRIL 2016

**Anytec 747**

Greg Copp tests this new all aluminium, Swedish design, performance craft.

**Racing at over 200mph**

PBR exclusive on the world of hydroplanes, plus interview with the Peters & May GB team.

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The Rodman 890 is the latest model from this leader in sports cruisers.

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Part 2: The case for the CE Mark - Alasdair Reay, CEO, HPI Verification Services

Part 3: The case against Categorisation - Hugo Montgomery-Swan



In the news

The latest news, product releases, new boats and gear from around the world.



Humminbird HELIX 9 Available in UK

Marathon Leisure have unveiled the three-model HELIX 9 Series, the latest addition to the HELIX family of compact-format fish finders, which features a widescreen colour display and powerful, professional-grade features. Packed with the latest technology, the HELIX 9 series is easy to use, and clear, bright and fast.

The 9» model features upgraded RAM, increasing the speed by 25%, to enable fast map refreshing and quick navigation through the menu function. With the addition of built-in AutoChart LIVE, owners can custom-contour their chart without having to update or share data.

Each model can be paired with the Humminbird 360 Imaging unit (sold separately), which offers a 360-degree view around the boat. Five beam speed settings allow adjustments as required.

The Helix 9 range is supplied with a quick-release gimbal mount, allowing for easy removal or angle adjustments. In-dash mounts can be purchased separately. All units are compatible with Navionics, Gold/Hotmaps and Platinum cartography.

For more information visit www.marathonleisure.com

Bravo 20 12v Pump

IBS Parts have announced the launch of the Bravo 20, a 12v high-efficiency low-noise inflator that includes an integrated 12v DC battery rechargeable through a cigarette plug or standard 110–240 AC/DC adaptor. The pump covers a wide pressure range selected using a dial indicator, which has an automatic shut-off device. Maximum pressure 1.5 bars (22.00psi).

The pump has a rubber base for maximum stability and there is a protected filtration system fitted. It weighs 3.5kg and comes supplied with carry bag, hose, fittings, alligator clips, cables etc.

For further information visit www.ibsparts.co.uk



GOLDEN ARROW MARINE NAMED SEA-FIRE SERVICE DEALER

Sea-Fire, manufacturers of a wide range of high-performance fire detection and suppression systems, have named Golden Arrow Marine their newest service dealer.

Since 1935, Golden Arrow Marine have served recreational, commercial and military mariners on the south coast of the United Kingdom. Operating out of four branches, they offer a wide range of new boats, engines, generators, thrusters, stabilisers and other marine equipment, as well as full service and technical support. They will supply, install and service the entire range of Sea-Fire products, including engineered systems and 3M Novec 1230 Fire Protection Fluid.

www.goldenarrow.co.uk
www.sea-fire.co.uk

MDL MARINAS UPGRADE WI-FI

MDL Marinas have invested £250,000 in a new superfast Wi-Fi service across their network of UK marinas. The new hardware will offer fast Internet access across all of MDL Marinas' 19 UK marina and boatyard sites. It will enable berth holders and visitors to quickly and easily connect, stream video, Skype and handle large file downloads from the comfort and convenience of their own boats.

The complementary service is offered as part of MDL's Freedom Berthing membership and will be accessible for all Wi-Fi-enabled mobile devices, offering a high-speed, low-latency connection.

For more information about MDL Marinas visit www.mdlmarinas.co.uk

Suzuki Launch Trio of Portable Outboards

Suzuki launched their brand-new DF6A, DF5A and DF4A portable outboards with an exclusive preview at the Düsseldorf Boat Show.

The new models are lightweight – weighing in at only 23.5kg – and quiet, and also feature a new design and colour. Suzuki have also made stowing these outboards easier with a new three-way storage capability. The improved fuel and lubricating systems enable convenient storage of the outboard on any of three sides (port, starboard or front) without the worry of fuel or oil leakage.

The new forced lubrication system has an additional oil passage to the upper and lower crankshaft and connecting rod big end, and the addition of a new oil filter is designed to increase the reliability of this system.

The new gravity-fed fuel delivery system means that the fuel line doesn't need to be primed before starting after storage. An easy recoil starter means less effort is required to get up and running, and once underway the new tilt system improves the overall operation of the outboard.

For full details on these new outboards visit www.suzuki-marine.co.uk



FAIRLINE'S FUTURE SECURED

The future of Fairline Boats has been secured, thanks to a deal that sees assets of Fairline Boats bought out of administration for an undisclosed sum.

The new company, Fairline Yachts, is funded by two long-term UK-based Russian investors, who are both highly experienced in managing and developing marine businesses and in the production of high-technology products, IT and media services. Both are also passionate boat owners.

Russell Currie has been appointed as managing director to lead the new business. With nearly 30 years of relevant experience, Russell has a very strong background in the luxury motor yacht industry. A Fairline dealer since 1998, Russell is CEO of Fairline North Mallorca, where he has achieved over £90 million of sales. Prior to this role, Russell was engineering director at Sunseeker International's factory team based at Mallorca, and was chief test engineer at Princess Yachts International before that.

The newly formed company will operate from its manufacturing facilities in Oundle, Northamptonshire. To ensure continuation of production of the boats, the company invites previous employees to apply for the c.100 jobs that will be immediately available.

For more information visit www.fairline.com



Berthon FPB Programme Growing

Berthon have announced the imminent addition of the FPB 70 to their growing range of FPB craft. The new FPB 70 will incorporate many of the capabilities and characteristics of her larger FPB 97 and 78 siblings, as well as some of the best features of the FPB 83 and 64s.

To find out more about this latest addition and the complete FPB programme, visit www.berthon.co.uk



400 Sundancer Debuts at boot

The Sea Ray 400 Sundancer made her official European debut at the boot Düsseldorf International Boat Show. It features a fresh design both inside and out with an eye to daytime socialising and relaxed overnighting.

The 400 Sundancer has an open floor plan that creates connected social zones throughout the boat. The salon features large windows and a power-actuated sunroof. Plush seating, including an L-shaped lounge, accommodates up to eight people, and there is a triple-pane entry door and retractable cockpit. The bow offers multi-position sun pads and an optional shade system.

The living area below opens to two full-beam staterooms. The master stateroom comes with an expansive closet system, or an optional

second head and shower, while the aft stateroom sleeps three and features a settee and sliding bunks that convert to a double bed when preferred.

The galley area offers high-end appliances and plentiful storage, and the helm station features joystick control from the double-wide helm seat.

For further details about the 400 Sundancer visit www.searay.com



New



Getting Connected

Mobile satellite service operators Thuraya have introduced their new SatSleeve+ and SatSleeve Hotspot aimed at today's generation of sailors who want to stay connected and share their experiences, however remote their location.

The new SatSleeve Hotspot is a portable Wi-Fi hotspot, designed to make it easier to check emails, make important phone calls or post on social media from any location by simply switching on and connecting to Thuraya's satellite network.

SatSleeve+, also new to the market, is a simple, sleek accessory that looks like a phone cover and clips easily onto smartphones, turning them into satellite smartphones. With Thuraya's SatSleeve+, users can make calls, send emails and messages, and use their apps directly on their smartphone.

Both devices have an SOS button that connects to a preset number of the owner's choice if they find themselves in trouble.

For further information visit www.thuraya.com

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And finally, the all-new **ZAR Mini** family; lightweight and easy to use RIBs and inflatables, designed to bring the pleasure of **ZAR** to everyone.

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SELVA LAUNCH SECOND NEW RIB RANGE FOR 2016

Selva Marine have announced the launch of a second new range of RIBs for the UK in 2016. Further to the launch of the sporty Special Line at Genoa in October, Selva are now able to announce the introduction of the Endeavour Line, aimed at combining high specification, attractive looks and affordability in the North European 'Crossover' style.

The Endeavour Line has been developed with exploration and adventure in mind. This new 6m Italian RIB has six engine options including three sport-tuned XSR models.

Starting with a grey hull and deck, the Endeavour Line includes tubes in grey and carbon impression Hypalon as standard, with eight grab handles in matching material.

The craft features a larger steering console with screen to protect from the elements, a sport steering wheel and a full carbon-effect dash. Twin double jockey seats with storage lockers and stainless backrests are specified, and two-tone grey and carbon-effect upholstery has been chosen to complement the tubes.

For full details about all Selva craft visit www.selvamarine.co.uk

New 55ft Berths at Lymington Yacht Haven

Nineteen new berths have been created at Lymington Yacht Haven, the flagship marina for Yacht Havens Group, to accommodate an increased demand for larger berths. The pontoon reconfiguration work, undertaken by Walcon Marine, included removing a section of finger berths from F pontoon and repiling at a wider distance. New longer finger pontoons were then fitted to accommodate boats up to 55ft (16m) LOA, with new electric points and freshwater hoses fitted.

The pontoon works mark the end of a busy year for Lymington Yacht Haven, who undertook a large dredging operation at the start of 2015, installed a new live weather system and succeeded in retaining their Five Gold Anchor Marina accreditation in the summer.

For further information visit www.yachthavens.com/lymington



ORACLE TEAM USA Buy a Scorpion

Scorpion have been commissioned to build a 'travel' chase boat for ORACLE TEAM USA based on the Sting hull and with twin inboard Yanmar engines. The boat will be transportable and used by ORACLE TEAM USA when on tour with the Louis Vuitton Americas Cup World Series.

Its first outing should be the recently announced LV ACWS event in New York in May 2016.

www.scorpionribs.com

TRAFALGAR WHARF TRAINING FUTURE 'RICHARD BRANSON'S'

Trafalgar Wharf, the former Vosper Thornycroft shipyard at Portchester, has teamed up with young entrepreneurs from Portsmouth Business School to offer an 'Apprentice-style' business challenge.

A small team of students studying business management degrees have been set the task of finding new ways for the marine-based business to make money. The students are studying marketing and business strategy as part of their degree and the partnership with Trafalgar Wharf enables them to put their ideas into action in the real world.

For more information visit www.trafalgarwharf.com



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Award Won!



ENGLISH HARBOUR YACHTS WIN PRESTIGIOUS AWARD

UK-based English Harbour Yachts have won the award for the 'Best Wheelhouse and Cockpit Cruiser' with their new EH29 Offshore model at the Motor Boat Awards ceremony in London.

Organised and judged by Motor Boat & Yachting magazine and ybw.com, the awards acknowledge the best in motor boat design from the past year, and each category is keenly contested with entrants from all over the world.

The judging panel, made up of a team of experienced marine journalists, was impressed by the boat's light and airy interior, its positive handling and the quality of the build. The panel also commented on the neat design touches, particularly the amount of headroom, and on the attention to detail with many practical features such as a covered fuel filler with its own built-in spill catcher.

The EH29 Offshore is available with a number of engine options, and can achieve a top speed of around 24 knots with a Volvo D3 Aquamatic inboard diesel.

www.englishharbouryachts.com



Axopar Join Forces with Adidas



Axopar also launch new 24 & 37 ranges. Axopar Boats OY and Adidas Sailing have combined forces to create a range of branded clothing available to owners and followers of the Axopar brand worldwide.

Including full offshore and coastal jackets, polo shirts, base T-shirts, life vests, crew shorts, luggage and other apparel, Axopar-Adidas clothing will be available to buy through online shopping accessed from the Axopar website.

In other Axopar news, the company recently launched its new Axopar 24 and 37 motor boat ranges. Centred upon a twin-stepped hull and protective and functional helm, the 24 range is constructed in a modular

fashion with versatility a key aim, and includes the AXOPAR 24 OPEN, the AXOPAR 24 T-TOP and the AXOPAR 24 HARD TOP.

The new Axopar 37 is the largest model in the Axopar range so far.

The extra 2.60m length afforded by the new 37 has given rise to more options, more functionality and greater living space all round. All Axopar 37 models benefit from increased seating provision up from five spaces to seven, and all have a larger, double-berth forecabin with toilet, and better integrated internal storage and cupboards, and an additional internal seat.

For full details visit www.axopar.fi

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Service, meaning that all Volvo Penta's customers will have 24/7 access to the service on a global scale. If a customer experiences a breakdown, they can call Volvo Penta Action Service and the operator will provide support all the way through the case and keep the customer updated on status and progress.

Whenever on-site assistance or

technical support is needed, the operator will put the customer in contact with the closest Volvo Penta dealer with the right competence to cater for their specific needs.

For full details of the numbers to call to access Volvo Penta Action Service, visit volvopenta.com



Icom Launch IC-M93D Handheld

Icom unveiled the first sample of their new handheld VHF/DSC at the London Boat Show.

Flown in especially from Osaka, Japan, the new product, called the IC-M93D, is only 145mm tall and weighs just 310g. Despite its size, the IC-M93D features a 2.4" high-contrast, dot matrix, backlit LCD display, which will allow all functions/information to be easily viewed.

The IC-M93D incorporates some of the features included in other Icom radios such as active noise cancelling technology, which uses a digital processor to reduce background noise. The IC-M93D is also buoyant, and if the radio falls into the water it will float on its back with the LCD, backlit keypad and distress button flashing, thereby making it easier to retrieve.

For full details on Icom's new IC-M93D handheld visit www.icomuk.co.uk



Cheetah Go Hydrogen Powered

Trials have begun on the Isle of Wight that may show the potential of hydrogen as a low-carbon fuel for the future. Cheetah Marine have been working closely with ITM Power, specialists in hydrogen energy systems, to develop and test a hydrogen-powered catamaran. The 9.95m Cheetah is the first marine example where a Hydrogen Internal Combustion Engine (HICE) producing only water and no carbon dioxide is used for propulsion.

With a refueller now installed at Cheetah's seafront workshop, the ultimate goal is to produce hydrogen with excess energy from the workshop's PV panels to power the boat.

Sea trials will continue into the spring with a 'Round the Island Car vs Catamaran Race' planned for early April.

To find out more visit www.cheetahmarine.co.uk

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TREMLETT: A MAN AND HIS BOATS

Charles Lawrence's TREMLETT: A man and his Boats is a revealing insight into Chris Tremlett – boat designer, innovator, boatbuilder and water/snow ski expert. With an incisive Foreword by well-respected powerboat expert and journalist Ray Bulman, it sets the scene for a story outlining the life of a remarkable man.

Born in 1936, Chris Tremlett established Tremletts (Skicraft) Ltd in 1960 based at Odhams Wharf in Topsham, Devon, to manufacture competitively priced wooden water sport boats, with output maturing into the production of wooden cruisers before GRP took over to make ever larger cruisers as well as commercial craft, workboats and RIBs. There's also information on his racing exploits and an interesting link to a 'yard in Mauritius.

With his usual clarity and care interlinked with delicately penned outline drawings, Charles Lawrence takes us through the Tremlett evolution, including Chris Tremlett's overture into hydrofoils. Sadly, Chris Tremlett died in 2008.

ISBN: 978-0-9927773-7-1

The book is priced £15.00 (including postage) and is available from Charles Lawrence at 11 Bishops Close, Chiswick W4 4JA. Cheques should be made payable to Charles Lawrence.



Cockwells 9.5m Limousine

Cockwells have launched a new 9.5m limousine tender designed not only to fit within the dimension and weight restrictions of the tender garage but also to reflect the aesthetics of the mother ship. The use of a combination of carbon deck and superstructure and the latest composite products for the hull keep the weight to a minimum.

This limousine has been designed by the in-house team at Cockwells in collaboration with naval architect Andrew Wolstenholme. She is equipped with a single 370hp Yanmar engine that takes her up to 36 knots with 12 passengers and two crewmembers on board. Her EmpirBus system with custom dashboard touch screen allows for easy control of all on-board electrical systems and gives the crew the opportunity to preset their preferred profiles. It controls everything on board, from navigation lights to air conditioning.

The saloon has ample space for up to 12 guests and is furnished with soft leather lining and warm wood highlights. She is also equipped with a Fusion marine stereo, heating and air conditioning.

For further details visit www.cockwells.co.uk



OverBoard Add to Pro-Light Range

OverBoard, who design and manufacture water sports and travel gear, have unveiled the newest additions to their Pro-Light range. Lightweight and protective, the new 12-litre backpack, 60-litre duffel bag, 20-litre dry tube bag and 6-litre waist pack are designed to combine comfort, safety and versatility, thereby making them particularly suitable for travellers, sports enthusiasts, skiers, campers, sailors, festival-goers, cyclists and outdoor lovers in general.

The four new additions to the range can handle full submersion and will float if dropped in the water. They are all made from environmentally friendly, lightweight TPU fabrics, enabling easy lifting and carrying for short and long durations while fully protecting the owner's belongings from the elements.

For details on the full range of OverBoard products visit www.overboard.co.uk



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George - Sales and Marketing Manager




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Events

Book a space in your boating diary, 2016 is going to be a busy year!

Bull Run for Fun

4-5 June - Dromquinna Manor, Kenmare, Co. Kerry, IRELAND.

To include a Poker Run, on the water Obstacle Course, talks and demos from Inshore Rescue and as a one off for this year the Bull Run will include the Skellig Islands!

Contact: thebullrunforfun@gmail.com or adambrennan96@gmail.com

<http://www.dromquinna.com/motor-boat-weekend-2014.html>

P1 2016 Race Series

14-15 May - Scarborough, Yorkshire
YORKSHIRE GRAND PRIX OF THE SEA

18-19 June - Greenock, Scotland
SCOTTISH GRAND PRIX OF THE SEA

9-10 July - Gosport, Hampshire
ENGLISH GRAND PRIX OF THE SEA

28-29 August - Cardiff, Wales
WELSH GRAND PRIX OF THE SEA

3-4 September - Bournemouth, Dorset
GRAND FINALE

Powerboat P1: www.powerboatp1.com

P1 AquaX: www.p1aquax.co.uk

P1 SuperStock: www.p1superstock.co.uk

Contact: [Robert Wicks robert.wicks@powerboatP1.com](mailto:Robert.Wicks@powerboatP1.com) Tel: 020 7935 4977

Pathfinder Club

19 March: Spring Social - land based visit to RNLI Head Quarters in Poole. Followed by lunch.

16-17 April: Cruise to Island Harbour, Isle of Wight, Club dinner in the evening

1-3 May: Cruise to Poole, option to stay Bank Holiday weekend, with Club dinner

28-30 May: Cruise to Weymouth, option to stay Whitsun weekend with Club dinner

4-5 June: Cruise to Buckler's Hard, with Club dinner

18-19 June: Cruise to Lymington Yacht Haven, with Club dinner

16-17 July: Annual Club BBQ at Island Harbour, all welcome.

6-7 August: Cruise to Bembridge, Isle of Wight, picnic on the beach and dinner

20-21 August: Cruise to Poole with anchor stop for Bournemouth Air Show

10-11 Sept: Cruise to Yarmouth, Isle of Wight with Club dinner.

19 Nov: Club AGM and Annual Dinner

Contact: [Paul Solomons hoblands@hotmail.com](mailto:Paul.Solomons@hoblands@hotmail.com)
www.Pathfinderpowerboat.com

British Inflatable Boat Owners Association

BIBOA is the UK RIB club for those who like to cruise and socialise in Rigid Inflatable Boats, a number of events are in conjunction with other clubs. See the Events Calendar on website for updates and join online via: www.biboa.com

Draft Schedule for 2016

2-3 April - Cruise to Weymouth

30 April-1 May - Cruise to Brighton

6-8 May - Cruise the Jurassic Coast

21-22 May - Cruise to Cherbourg & St Vaast La Hogue

12-19 June - Spectate the Venture16 Round Ireland Race (non - BIBOA).

8-10 July - Cruise to Honfleur

16-17 July - Lunch on Isle of Wight

12-14 August - Cruise to Dartmouth

3-4 September - Spectate & Safety for the Cowes-Torquay Race

16-18 September - Le Havre

1-2 October - Cruise to Weymouth

Contact: [Mike Deacon mike@hotlemon.com](mailto:mike@hotlemon.com)
Tel: 07836 282345

Seafari Oban

30 April - 1 May - Easdale RIB

Rendezvous - Destination Oronsay, south of Colonsay.

Open to all RIBS - skipper takes full responsibility for safety of craft and persons aboard full details www.easdaleRIBrendezvous.org.uk

Contact: [Tony Hill, Sea.fari Adventures \(Oban\), Easdale, Oban, PA34 4RF Tel: 01852 300003 / www.seafari.co.uk.](mailto:Tony.Hill@seafari.co.uk)
Email: seafari_oban@yahoo.co.uk (Marine Wildlife Tour Operator).

Seafari Marine Services, Easdale Oban PA34 4RF Tel 01852 300003

www.seafarimarinetimeservices.co.uk
email: seafarioban@googlemail.com

Venture Offshore Cup

11-19 June 2016 - The World's Longest, Toughest & Most Prestigious Powerboat Race.

NB: The organisers state that they are not allowed to publish details of our Support Races until they've been agreed with ISA/RYA, but the following are the confirmed elements for this year's Venture Cup.

11th - Scrutineering - Cork

12th - Leg 1 - In-Harbour Racing (with support racing) - Cork - 100nm

13th - Leg 2 Cork to Dingle. 150nm

14th - Leg 3 Dingle to Galway. 125nm

15th - Rest Day

16th - Leg 5 Galway to Killybegs. 200nm

17th - Leg 6 Killybegs to Belfast. 210nm

18th - Leg 7 Belfast to Dublin (with support racing). 150nm

19th - Leg 8 In-Port Racing - Dublin (with support racing). 100nm

Contact Aiden Foley: Tel: + 353 87 323 4126 / Skype: ventureaidan.
www.ventureoffshorecup.com

RIBNET Cruise

4-5 June - Bristol

Rigid Inflatable Boats, SIBS and Small Powerboats' event hosted in Bristol by Bristol Cruising Club. 60 + visiting ribs (at least 2 from abroad), as well as around 15 cruisers of various sizes from local clubs expected. The cruise date has also been selected to commemorate 20th Anniversary of opening of 2nd Severn Bridge.

Contact: [Gary Workman 07895 303102](mailto:Gary.Workman@seafari.co.uk) or [Mike Hall 07891 214017](mailto:Mike.Hall@seafari.co.uk)

Powerboat GP

Dates for this year's Powerboats GP National Championship events and the UK round of the UIM European Championship.

1-2 May RYA PGP British Championship
Lowestoft GP (Oulton Broad)

28-19 May RYA PGP British Championship
Lancashire GP (Carr Mill)

2-3 July RYA PGP British Championship
Kingsbury GP (Kingsbury)

16-17 July RYA PGP British Championship
Chasewater GP (Chasewater)

6-7 August RYA PGP Sprint Championship
Bedford Sprint (Stewartby)

27-28 August RYA PGP British
Championship Nottingham GP (NWSC)

17-18 September RYA PGP British
Championship Bedford GP (Stewartby)

**2016 UIM F2, F4 & GT15 European
Championships**

23-24 September - 2016 UIM European
Championship - UK Round (Stewartby)

**Contact: Tony Cossington, Tel: 07985-
877424 / tony@powerboatgp.co.uk**

2016 UK Boat Shows



**12-13 March 2016 - Premier Marina's
Motorboat & RIB Show** - Gosport Marina
www.premiermarinas.com

**20-22 May 2016 - Poole Harbour Boat
Show.** (In association with Sunseeker).
www.pooleharbourboatshow.co.uk

3-5 June 2016 - Northern Boat Show
(10am - 5pm daily) - Liverpool Waterfront
Contact: Richard Milbourn Tel: 0844 561
1230 / richard.milbourn@carnah.co.uk
www.northernboatshow.co.uk

16-25 Sept - Southampton Boat Show
Southamptonboatshow.com
Ticket Hotline 0844 7767766

5-15 Jan 2017 - London Boat Show
Londonboatshow.com
Ticket Hotline 0844 7767766

9-11 June 2017 (not happening in 2016!)
- **All Wales Boat Show**
enquiries@allwalesboatshow.com

South West Sports Boat Rally

28-30 May 2016 Brixham, Torbay, Devon
This event is no longer a strictly Fletcher
Owners Club event. The rally is an open to
all sports boats under 25'.

**www.swsbr.co.uk. Organiser: John
Shepherd Contact: john@swsbr.co.uk**

Summer Events in Association with Premier Marinas.

5-6 March Swanwick Used Boat Show
(Pre-Season New & Used Boat Show)
Location: Swanwick Marina

12-13 March Dry Stack Show.
Location: Gosport Marina

19 March RYA Navigation Workshop.
Location: Swanwick Marina

16 April RYA Own Boat Tuition.
Location: Chichester Marina

23 April RYA Powerboat Skills Day.
Location: Swanwick Marina

30 April Fishing Show.
Location: Southsea Marina

May (tbc) The British Motor Yacht Show.

21 May RYA Sailing Skills Day.
Location: Swanwick Marina

12 June The Queen's Birthday Party.
Location: At every Premier Marina

18 June RYA International Certificate for
Operators of Pleasure Craft.
Location: (ICC) - Swanwick Marina

10-11 Sept Cross Channel Cruise.
Location: Swanwick Marina

16-25 Sept Used Boat Show.
Location: Swanwick Marina

Contact for the above events:
Lizzie Mitchell. Tel: 01489 885000 /
lizziem@premiermarinas.com

The Tall Ships Races 2016

Ports & Race dates:

7-10 July - Antwerp, Belgium - Race 1

22-25 July - Lisbon, Portugal - Race 2

28-31 July - Cadiz, Spain - Race 3 /
Cruise in Company

11-14 August - A Coruna, Spain

**[www.sailtraininginternational.org/
events/2016-the-tall-ships-races](http://www.sailtraininginternational.org/events/2016-the-tall-ships-races)**

Lobster & Crab Feast

4 September 2016
www.clovelly.co.uk

Henley Royal Regatta

29 June - 3 July
www.henleyregatta.com

Honda RYA Youth RIB Championship

7 May Northern Ireland - Ballyholme
Yacht Club

**Tel: 07557 781069 Email: [mr.rescue.
man@gmail.com](mailto:mr.rescue.man@gmail.com)**

21 May South West (1) - Mountbatten
Centre

**Tel: 01752 404567 Email: [enquiries@
mount-batten-centre.com](mailto:enquiries@mount-batten-centre.com)**

South West (2) - TBC

4 June Scotland - Castle Semple Centre
Tel: TBC / Email: TBC

11 June South (CI) - Guernsey Yacht Club
**Tel: 07781 137692 / Email: [tim.parkes@
ymail.com](mailto:tim.parkes@ymail.com)**

TBC South 2

9 July North East - Otley Sailing Club
Email: tony.busfield@btinternet.com

16 July Midlands - Burton Sailing Club
**Tel: 07504 271611 / Email: [william_
baldock@outlook.com](mailto:william_baldock@outlook.com)**

11-12 June Wales - TBC

North West - TBC

2 July - East - TBC

**Tel: 07948 811 944 / Email: [steve.
curtis90@gmail.com](mailto:steve.curtis90@gmail.com)**

SE & London (1) - TBC

SE & London (2) - TBC

RYA 2016 Circuit Racing calendar

For the full and extensive listing
of events see: [www.rya.org.uk/
programmes/powerboatracetracing/Pages/
PowerboatRacingCalendars.aspx](http://www.rya.org.uk/programmes/powerboatracetracing/Pages/PowerboatRacingCalendars.aspx)

**Reference the Offshore Racing
calendar - this will be added to the
RYA Powerboat Racing Calendars page
very shortly.**

Thundercat Race Series

**In association with M2M Racing Club
Ltd and Voom Voom Ltd.**

Race events are held monthly throughout
the season and culminate in an end of
series Championship Title event.

**For all information on the extensive
calendar contact: Fiona Pascoe: [fiona@
thunderuk.com](mailto:fiona@thunderuk.com) / 02380 240388 / [www.
thundercatracing.com](http://www.thundercatracing.com)**

Weird & Wonderful: Gibbs Biski

Alex Smith explores the latest amphibian from one of the world's greatest masters of the art ...



SPECIFICATIONS

LOA: 2.35m
Width: 0.95m plus mirrors
Wheelbase: 1.79m
Weight: 228kg
Ground clearance: 150mm
Carrying capacity: 348kg
Fuel capacity: 20 litres
Land speed: 80mph
Water speed: 32 knots
Time to plane: Up to 3 seconds
Transition time: Up to 5 seconds
Engine: 2-cylinder 55hp petrol
Drive: Rear-wheel drive
Marine propulsion: Gibbs custom dual jet

REGULAR READERS of PBR will know I'm a huge fan of Gibbs Amphibious Sports. While the rest of the world messes about with ugly, expensive, impractical, 'garden-shed' amphibians that appeal only to novelty addicts, Gibbs make stuff the real-world boater could conceivably buy and use.

While their first (and most famous) craft, the Lotus-inspired Aquada, was a rather outlandish and experimental platform, more recent models, like the Amphitruck and the Quadski, have shown how accessible, useful and entertaining the company's modern offerings can be. Given the natural overlap in riding style and operating

interface between a motorbike and a personal watercraft (PW), it was only a matter of time before the company turned its attention to the two-wheeled amphibian – and with the arrival of the Biski, that time has now come.

The best of both?

Gibbs have taken an aluminium monocoque hull as the starting point for this new craft – and as you would expect of a bike designed to plane on the water, the lower portions of its 'faring' look uncommonly flared and weighty. But stylistically, it's by no means the ugliest amphibian around. On the contrary, while some might accuse it of being

designed by a child with a blunt crayon, I happen to think its broad, bluff surfaces and bulky 'skirts' lend this colourful pod-style vessel the potential to attract a serious cult following.

However, leaving subjective squabbles aside for a moment, the technical realities of this craft make every bit as much sense as you would expect. Motive power is provided by a two-cylinder 55hp petrol engine, which operates through the rear wheel for land speeds of up to 80mph – and through Gibbs's proprietary dual-jet system for 32-knot performance on the water. It will also hit the plane in less than 3 seconds and make the transition between land and sea in less than 5.



The Biski is the latest amphibian from Gibbs



Despite her weighty looking 'skirts', the 80mph Biski has decent stylistic appeal.



The transition from land to water takes just five seconds.

... an amphibious bike from Gibbs is much more than just an indulgent curio.

... another outstanding beacon of hope, technical excellence and ... real-world relevance from the excellent Gibbs yard.

Now, given the ferocious performance of modern superpowered sports bikes and PWs, it is plain that these figures fall a long way short on both land and water. But I don't reckon it matters a great deal. On the contrary – in view of the subversive refocusing of industry imperatives brought about by the modestly powered and idiot-proof SeaDoo Spark, it's very probable that the Biski's dynamic deficiencies will prove wholly irrelevant in the face of its ability to encompass the simple pleasures of both PW and bike.

Of course, if you really hanker after a bit more performance, you could always up the ante with the Gibbs Triski, which uses two wheels at the front alongside a 135hp engine for nearly 40 knots as a PW and 85mph as a road trike. But either way, an amphibious bike from Gibbs is much more than just an indulgent curio.

Summary

The prices for the Biski have not yet emerged. But given the fact that the bigger, heavier, more powerful, one-man Quadski can be yours for around US\$45,000, you would have to surmise that the Biski ought to be very affordable indeed. In stark contrast to the bulk of



You can expect up to 32 knots on the water



speculative amphibians that litter the in trays of boating journalists and the annals of modern design, this has to be considered another outstanding beacon

of hope, technical excellence and (yes, I'm gonna stick my neck out and say it) real-world relevance from the excellent Gibbs yard. **PBR**



If you want a little more power, the three-wheel version might be a better bet.



If you live in an area of engine-friendly lakes, this could actually make sense.



Despite moderate power and heavy weight, performance on and off the water looks good enough to entertain.

**BOATING
TECH**
WITH GREG
COPP



Display panel: The display panel keeps you in the loop regarding signal, battery power, emails and voice messages.

Iridium GO! Portable Satellite Router

Greg Copp describes the wireless benefits of the new Iridium GO!

THE IRIDIUM GO! offers Internet and mobile phone connection anywhere on the planet. It requires no satellite dish, instead it connects through a small folding omnidirectional antenna, like an early-generation hand-held GPS. Powered by either a rechargeable lithium-ion battery or mains voltage, it can handle some pretty harsh conditions. Built for military as well as marine and expedition use, it is rated to IP65 and MIL-STD 810F standard. The former means it is water- and dust-proof, the latter means it is tough enough for the US military to use.

It can connect wirelessly to a maximum of five mobile phones, tablets or laptops up to a maximum range of 100 feet (30 metres). Initial set-up is easy via the free Iridium GO! app. This enables voice calls, text messages, Twitter posts and quick location messages. There is an emergency SOS app that can either be activated via your phone or the Iridium GO! device itself. This app needs to be configured for the SOS to be sent to a designated recipient or recipients. Once sent, you have the option of making voice contact. Like a DSC radio, your coordinates will be sent in the initial SOS message.

The free Iridium Mail and Web App

enables several additional features. These include email, file/data compression, photo transfer via email, Facebook and Twitter, as well as general web access. Iridium have also produced several weather and navigation apps that provide

With the omnidirectional antenna up, you can get a signal anywhere on the planet



Antenna up: With the omnidirectional antenna up, you can get a signal anywhere on the planet.

real-time detailed weather information. Specific sailing apps enable you to see wind speed and direction in detail.

There are the options of either a pay-as-you-go BlueCosmo SIM card (www.bluecosmo.com) or various monthly contracts based on data requirements. With BlueCosmo, incoming texts are free, while outgoing calls/texts are reasonably priced, and unless you intend to use it frequently this is probably the best option. Not surprisingly, Internet data use does have some premium. Costs for the Iridium GO! vary in the UK from £600, with Google and eBay the best places to source it.

Contact www.iridium.com



Full kit: The full kit includes charger and USB cable.

HIGH PERFORMANCE

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W: www.ribworld.co.uk





This is all this power-efficient system comprises: a display and a dome.

Quantum Leap

The London Boat Show saw the UK launch of two products from Raymarine: the Quantum CHIRP radar and the Dragonfly 7 PRO sonar/GPS combination. **Greg Copp** tells us more ...

RADAR HAS COME forward in leaps and bounds since digital radar first appeared on the scene, but the Quantum CHIRP looks to be a game changer. It is the first recreational marine radar featuring CHIRP pulse compression technology. In exceedingly simple terms, pulse compression uses far less power and achieves much higher levels of clarity, even at its maximum range of 24nm. It does not reach further than conventional magnetron radar, but what you see in terms of navigational marks, other craft and even the weather is claimed to be unmatched in terms of detail. As well as being long-sighted, clear images as close as 18 feet away are also possible, so if you are creeping through the mist, there will be little doubt as to what could be closing on your bow.

Quantum's CHIRP pulse compression technology uses

Weighing just 12lb, the radar dome will make radar a realistic option for smaller craft.



Quantum's solid-state design and efficient electronics are a huge bonus, significantly reducing power consumption and extending battery life.

multiple compressed radar pulses with FLIR's exclusive ATX advanced target separation technology to display with a very high-resolution quality compared to traditional magnetron radars. Quantum's on-board processing also automatically eliminates rain and sea clutter, blocks interference from other radars, and ensures a noise-free, easy-to-interpret image in congested waterways.

Quantum's lightweight design and Wi-Fi connectivity make it easy to install and simple to operate. At only 12lb (5.4kg), Quantum weighs 50 per cent less than traditional magnetron radars, and the internal solid-state components are a fraction of the size of the internals of a magnetron radar. This system is a reality for smaller boats that could not normally house a heavy power-hungry dome mounted high above the boat's centre of gravity. Quantum breaks new ground with its Wi-Fi networking connection to Raymarine's multifunction displays, making installation much easier and eliminating the need for additional radar cabling or interface boxes.

For sailing vessels, Quantum's solid-state design and efficient electronics are a huge bonus, significantly reducing power consumption and extending battery life.

The Quantum CHIRP radar will be available worldwide in the first quarter of 2016 starting at £1,495 (inc. VAT).

THE NEW DRAGONFLY 7

PRO is a feature-rich sonar/GPS combination. Offering the same advanced features as the award-winning Dragonfly 5 PRO, the 7 PRO is equipped with an extra-large 7" display. The superbright display is also optically bonded for all-weather performance, and is guaranteed to never fog up. Unlike conventional imaging sonars that transmit each pulse at a single frequency, the Dragonfly 7 PRO's DownVision sonar uses wide-spectrum CHIRP technology to transmit high-resolution photo-like sonar images. It offers deep-water performance to 600 feet, which is par for the course in terms of fish finder performance, and it also provides reliable high-speed bottom tracking, which is where many systems fail to perform. It is also equipped with a conventional high-frequency CHIRP, single, slower-speed sonar channel, for targeting fish and bottom tracking down to 900 feet

The Dragonfly is bonded for all-weather performance and guaranteed never to fog up



As the Dragonfly is guaranteed never to fog up it is ideal for light, fast and open boats.



It is claimed that the Dragonfly display offers superb clarity at 600 feet, even at speed, thanks to DownVision CHIRP technology.

(277 metres). It has a fast-acquisition GPS sensor and mapping software that helps you to stay on course. Raymarine's Wi-Fish mobile app enables streaming of CHIRP DownVision directly to smartphones or tablets. The Wi-Fi also syncs with the Navionics Boating app to give anglers the power to create their own personal HD bathymetry maps in real time.

The Dragonfly 7 PRO supports Navionics charts, C-MAP by Jeppesen and Raymarine LightHouse charts, and comes bundled with C-MAP Essentials or Navionics+ maps on microSD. Prices from £595 (inc. VAT).

Contact www.raymarine.com

It is claimed that the Dragonfly display offers superb clarity at 600 feet, even at speed, thanks to DownVision CHIRP technology.



boot Düsseldorf 2016

PBR reports on the tremendous atmosphere and full exhibition halls brought by nine extraordinary, action-packed days at this year's boot Düsseldorf show.

WHEN BOOT DÜSSELDORF finally closed its doors after nine memorable days, water sports enthusiasts of all disciplines could look back at the events of this year's show with more than a little satisfaction in the knowledge that their expectations had been fulfilled. The atmosphere had been electric in all 17 of the exhibition halls, and the 1,800 exhibitors

reported that the public had been extremely interested and keen to buy. Statements made by spokespersons for the exhibitors such as 'Düsseldorf is

Both private water sports enthusiasts and trade visitors proved to be very keen to invest.

always worth it!' sum up the success achieved by boot 2016, and the impact is likely to be long-lasting. This year's show hosted 247,000 visitors from 52 countries, an increase of 2.8 per cent compared with 2015, and they experienced the biggest and most spectacular water sports event ever to take place in exhibition halls. The 1,800 boats and yachts on display included craft from the latest trend sports such as wake- and skimboarding, as well as kitesurfing, diving, fishing, canoeing and cruising. And water sports enthusiasts were



extremely impressed, with 97.5 per cent giving boot Düsseldorf top marks. This delighted the trade fair organisers, headed by managing director Werner Matthias Dornscheidt, who said: 'It is so much fun starting the trade fair year with boot. Anyone who went round the halls saw exhibitors with cheerful faces and happy visitors, with exactly the right blend of trade representatives and private water sports enthusiasts. boot 2016 was a professional party that whetted everyone's appetite for water activities in gloomy January.'

Sailing and sailing boats are traditionally the most popular segment of boot, followed by motor boats, which in turn are followed by diving and accessories/equipment. boot director Goetz-Ulf Jungmichel said: 'Another very impressive feature is the

The successful year enjoyed by the water sports industry in 2015 had a definite impact on boot this year.

strong interest in luxury yachts, which shows that we here in Düsseldorf have exactly the right clientele for this high-price segment.'

The 'Cruise Pavilion', which was extremely popular, offered a wide range of cruise options that could be booked directly, while young visitors to the trade fair were attracted to 'Beach World', which offered a pool on which there were opportunities to try out wake- and skimboarding or kitesurfing. boot visitors were very interested in water tourism, chartering and fishing as well.

And our fans are loyal to us,' Jungmichel was pleased to report. Now in its 47th year, many water sports enthusiasts first experienced the trade fair back when they were children and are now passing their passion on to the next generation.

The companies exhibiting complimented the trade fair on the further increase in the quality of the professional visitors. Specialists from the boot industry, the tourism industry and the service sector in particular took advantage of boot 2016 to hold intensive discussions and place orders with the corporate exhibitors. More than 50,000 visitors came to Düsseldorf for the trade fair this year from European countries outside Germany and from overseas. For Goetz-Ulf Jungmichel, this is a clear indication of the leading global position held by boot Düsseldorf: 'We are the top boat trade fair for international experts in particular, since we cover the entire maritime community every year. Since the exhibitors bring both boats and equipment to our event, visitors are in a position to obtain a realistic insight into everything that is available.'

The successful year enjoyed by the water sports industry in 2015 had a definite impact on boot this year. Both private water sports enthusiasts and trade visitors proved to be very keen to invest. Jürgen Tracht, director of the German Association of the Water Sports Industry, was therefore delighted with the way boot 2016

went: 'We are very satisfied. boot gave our industry major additional momentum, which will be producing positive results in the course of the year. This is clear confirmation of the forecasts we made before the event. We are expecting the uptrend in the water sports industry to continue in future as well. Almost 90 per cent of the companies anticipate that the market will be expanding even more in the coming two to three years. The maritime economy is demonstrating impressive stability, with single-digit growth rates in practically all market sectors.'

Goetz-Ulf Jungmichel is passing the helm of boot Düsseldorf on to Petros Michelidakis. Jungmichel, who has been responsible for running the water sports trade fair since the middle of 2008, will be leaving Messe Düsseldorf at the end of February 2016 to go to Hamburg. On 1st March 2016, he is taking over the position of secretary general and director of the German Sailing Association (DSV) there, so he will continue to be associated with boot, in view of the role that the DSV plays as one of the organisations behind the project. His successor on the boot bridge is an experienced trade fair manager, who – among other assignments – has been working successfully for Messe Düsseldorf for years now in the foreign representative network with responsibility for Greece. In recent months, the two trade fair managers have been operating side by side under Jungmichel's leadership to ensure that boot Düsseldorf 2016 was a success and that the transition goes smoothly. Messe Düsseldorf managing director Matthias Dornscheidt said: 'The new boot manager knows us inside out and is familiar with boot as well as the trade fair and sales management system. He will be continuing to promote the market-oriented focus of boot and will be making sure that boot maintains its leading position.'

boot Düsseldorf will be held next year from 21st to 29th January.

... water sports enthusiasts were extremely impressed, with 97.5 per cent giving boot Düsseldorf top marks.

Dusseldorf Boat Show: 10 Powerboat Highlights

Alex Smith visits Europe's biggest indoor boat show in search of 10 powerboats worth getting excited about.

IF YOU CAN put up with the drab food, the officious security, the peculiar distaste for levity and the euro price tags, the sheer scale and variety of the Dusseldorf Boat Show make it one of

the very best marine exhibitions in the world. To see so many small builders, many of whom you have never heard of, producing really first-class work helps revitalise your enthusiasm for marine recreation in good time for the new season. And while the sheer diversity of the offering can make it very tough to narrow down a shortlist, the following 10 boats did more than most to leave a lasting mark on the memory ...



1 ANYTEC 747 CABIN ▲

Aluminium is a great boatbuilding material, too often confined to pedestrian runabouts and yacht club support boats. But here, from Anytec of Sweden, the idea is simply to produce 'the world's best aluminium boats' – and if the handling of the 747 Cab is as good as its looks, it won't be far off. It sticks to the established Anytec formula, with an acutely angled, well-balanced, sporting hull, a soft-riding 55-degree entry and a healthy dose of outboard power. With 300hp on the transom, you can expect a top end of 50 knots and a very swift and efficient cruise of 40 knots with a fuel flow of 44 litres per hour and a range of nearly 300 nautical miles. Everything is welded rather than bolted together –

and while the show boat itself exhibits the simplistic layout of a four-season speed machine, Anytec are able to weld whatever kind of deck furniture you require. If ever there was a boat that stood a realistic chance of converting the staunch British 'tinny-phobe', this is it.

SPECIFICATIONS

LOA: 8.08m
Beam: 2.55m
Weight: 1370kg
Power: 150–350 hp
Engines: 300hp outboard
Fuel capacity: 350 litres
Top speed: 50 knots
Price: From £99,000
Contact: www.salternsbrokerage.co.uk



2 ARCADIA SHERPA ▲

While Italian yard Arcadia are best known for luxury yachts around the 100-foot mark, their new 'entry-level' Sherpa is a very different proposition. Despite a length of 55 feet, it is designed to offer the internal capacity of a 70-footer and it achieves that in a couple of ways. Firstly, the beam of more than 18 feet is almost on a par with a catamaran; and secondly, the vertical stem, radically elevated hull line and bulbous forward form means you get big internal volume at the bow, freeing up 41 square metres of aft deck to configure either as unbroken space or with an extended saloon. Of course, with its limited range of 650nm, it's not the true expedition vessel its name suggests – and with its slightly grotesque looks, limited two-cabin accommodation and prototype quality of finish, it's not likely to make a positive impact on everyone. But for its unflinching boldness of concept and the scale and flexibility of its aft deck, it's a difficult yacht to ignore.

SPECIFICATIONS

LOA: 17.65m
Beam: 5.6m
Weight: 18,000kg
Power: Various
Engines: Twin Volvo Penta IPS600
Fuel capacity: 1800 litres
Top speed: 25 knots
Price: 1.36 million euros
Contact: www.arcadiayachts-sherpa.com



4 FOUR WINNS V255 ▲

Fresh from its victory at the European Powerboat of the Year Awards, the Four Winns V255 is staking a big claim as a genuine mini cruiser on a compact cuddy footprint. Up top, the cockpit is usefully versatile, particularly in the port quarter, where the four-man dining station can be reconfigured to create unbroken peripheral seating that wraps all the way from the navigator's aft-facing lounge to the starboard walk-through transom. And down below, you get two double berths – one running laterally beneath the helm and one cleverly arranged on the diagonal to maximise the limited length. There's also standing headroom at the port galley and a dedicated heads compartment to starboard. Some of the materials feel like bargain bucket offcuts, and in places the finish lacks that nth degree of quality, but as a trailerable family craft that can sleep four in relative comfort, it's very easy to see the appeal.

3 AXOPAR 37 AC ▲

Finnish brand Axopar were only launched in 2014, but at the hands of the same people behind Aquador, Paragon Yachts and XO, their 28-foot model has already won some of the industry's most prestigious awards. Like that original craft, the new 37 is available in T-Top or Wheelhouse layouts and with or without the ingenious aft cabin. In all cases, however, you get a stepped hull with a steep, wave-slicing stem and a dynamic balance specifically optimised for outboard propulsion. For UK waters, the AC model (with forward cabin, enclosed wheelhouse and aft cabin) is a fiercely capable four-season express cruiser for families who enjoy a bit of everything. Both cabins are much brighter and more spacious than the modest beam suggests, the helm station

is usefully deep-set for aggressive seas, and the two broad lateral doors, overhead sunroof and single-piece screen keep things very open, despite the protection of the wheelhouse structure. With an expansive bow space, an aft sun deck and high-quality build throughout, this is another serious Scandinavian contender.

SPECIFICATIONS

LOA: 11.2m
Beam: 3.3m
Weight: 3175kg
Power: 350–600 hp
Engines: Twin 300hp outboards
Fuel capacity: 770 litres
Top speed: 45 knots
Price: TBC
Contact: www.offshorepowerboats.co.uk

SPECIFICATIONS

LOA: 7.67m
Beam: 2.55m
Weight: 2800kg
Power: 240–300 hp
Engines: Volvo Penta/MerCruiser
Fuel capacity: 265 litres
Top speed: TBC
Price: £94,086
Contact: www.cambrianboats.com



5 DELPHIA ESCAPE 1150 VOYAGE ▲

Since their foundation in 1990, Delphia have become Poland's largest boatbuilder – and their latest launch slots neatly into place as the second largest of their seven highly regarded Escape models. Designed as a modern luxury cruiser with very distinct day and night spaces, the lower deck is dedicated solely to the sleeping arrangement. That comprises two generous cabins, each with its own heads and shower compartment. Up top, the wheelhouse provides a lounge and galley right next to the helm station, to help keep the skipper involved when underway. And in addition to an open aft cockpit with extended swim platform, you can generate some extra external lounging space either by opting for the full-length sunroof (rather than the partial one) or by

selecting the optional 'Sunfly'. Either way, with its voluminous internal space and modest power demands, the Category B Delphia does a good job of justifying its lofty claim that it combines the advantages of a houseboat with the performance and agility of an offshore craft.

SPECIFICATIONS

LOA: 10.8m
Beam: 3.45m
Weight: 5500kg
Max. power: 520hp
Engines: Inboard options
Fuel capacity: 700 litres
Top speed: 32 knots
Price: From £125,000
Contact: www.norfolkboatsales.co.uk

6 BRIONI 44+ ►

The Slovenian Brioni 44+ might look like an Italian thoroughbred but its uncompromising design tangents make it much more interesting than that. For instance, massive headroom in the saloon is achieved not by elevating the mouldings but by dropping the deck and simply reducing the space below to such an extent that the guest double offers horizontal space only. By the same token, a free-flowing passage fore and aft through the saloon is created not by broadening the walkways or staggering the furniture, but by pushing every bit of internal lounge seating to port and moving the galley into the aft cockpit. And in order to free up space in that cockpit, the galley itself recedes entirely into the mouldings beneath

the port walkway and is simply pulled out like a rabbit from a hat whenever needed. It costs an outlandish amount of money and the great design choices are counterbalanced by a variety of odd ones – but it's sexy, fast, beautifully built and completely unlike anything else in the world.

SPECIFICATIONS

LOA: 13.52m
Beam: 3.95m
Weight: 9600kg
Power: 870hp
Engines: Twin Volvo Penta IPS600
Fuel capacity: 1400 litres
Top speed: 42 knots
Price: From 650,000 euros
Contact: www.brioniyachts.com

To see so many small builders ... producing really first-class work helps revitalise your enthusiasm for marine recreation ...

7 SARGO 28 EXPLORER ►

If you prefer proven excellence to pioneering ingenuity, you won't go wrong with a Sargo – and for its blend of space, ability and value, the 28 Explorer is all the boat the compact seafaring family will ever need. In addition to offshore resilience and a supersoft ride, all windows are frameless and bonded for greater strength, cleaner lines and easier maintenance. Its hard-core credentials are also reflected in the standard equipment list, which includes an electronic navigation suite, multi-adjustable helm, stainless steel keel band, windscreen wipers, demisters, automatic trim function, bow thruster, a trio of independent, maintenance-free AGM batteries and a set of rooftop spotlights. The Explorer package adds blinds rather than curtains, tinted windows, bespoke fabrics and glass inserts in the sliding roof, plus a radical stylistic upgrade, with granite colourways and a matt-black finish on the stainless steel fittings. And despite the walk-around four-season wheelhouse and the two double cabins, the aft cockpit is also a handy spot for al fresco gatherings. It looks like an all-action, multi-purpose plaything because that's exactly what it is.





SPECIFICATIONS

LOA: 8.8m
Beam: 2.98m
Weight: 4200kg
Power: 260 - 440 hp
Engines: Volvo Penta single or twin
Fuel capacity: 375 litres
Top speed: Up to 41 knots
Price: From £160,000
Contact: www.marcomarine.co.uk

... it's sexy, fast, beautifully built and completely unlike anything else in the world.



8 FRAUSCHER 1414 DEMON

Austria might be a landlocked nation with a tenuous seafaring backdrop, but Frauscher are builders of uncommon ability – and their gorgeous, award-winning fleet of rapier sports boats and express cruisers has now been topped off with a new flagship. Designed by KISKA with hydrodynamics from Harry Miesbauer, the 1414 Demon continues Frauscher's winning formula with the same double-stepped hull and vertical stem, the same frameless tinted screen and muscular, automotive-style haunches, and the same sculptural air intakes and uncluttered cleanliness of form. In short, it looks every bit as lovely – just larger, more powerful and better equipped. The teak-lined cockpit uses geometrically arranged seating, plus a well-specced al fresco bar with griddle, icemaker, fridge

and sink; and down below, the staggered, asymmetric layout is equally modern – it includes a bathroom, mini galley and convertible lounge, plus surprising headroom and remarkably spacious sleeping for four. This new boat is plainly taking aim at the superyacht tender market, but as a stand-alone weekender, it would do very nicely indeed.

SPECIFICATIONS

LOA: 13.9m
Beam: 3.8m
Weight: 10,000kg
Power: 800–1040 hp
Engines: Twin 520 hp
Fuel capacity: 1250 litres
Top speed: 42 knots
Price: From 748,800 euros
Contact: www.frauscherboats.com



9 PRINCESS 30 M

The Princess 30 M (the largest yacht at the show) is a luxury, semi-custom, pilot house vessel designed to provide easy long-range passage making alongside performance of up to 27 knots. As you would expect, the galley and utility areas can be accessed by the crew without interrupting the main living areas, but what's more surprising is the position of the master suite. It sits alone on the main deck toward the bow – and while that means the tapering of the superstructure minimises the available space, it also means far better views, radically improved natural light, greater isolation from the noise and vibration of the engines and a rare degree of privacy. The four double en suite cabins are positioned on the lower deck amidships, while the crew quarters are located beneath the master in the V of the bow. And while the main helm station feels a little cramped, the fly deck is a huge, easily configured platform, featuring sunloungers, settees, a dining station, a wet bar and a jacuzzi; and the saloon can also be expanded into the external space via an optional fold-out balcony.

SPECIFICATIONS

LOA: 30.45m
Beam: 7.05m
Weight: 98,000kg
Power: 3896–5274 hp
Engines: Twin MTU 16V 2000
Fuel capacity: 12,200 litres
Top speed: 27 knots
Price: 9 million euros
Contact: www.princessyachts.com

10 MAREX 375

Marex's new open-cockpit model is a masterclass in attention to detail. The engine room is delightfully rigged, with enough space for single or twin rigs in shaft or sterndrive form. The fenders have their own compartments, the quick-erect canvases are tucked neatly away in dedicated lockers, and even the engine hatch is built from 24mm marine ply lined with solid teak. The wood grain of every hatch, door and lid is matched exactly to that of its frame, and while teak is used for the external furniture, the internal spaces use equally lovely steamed ash. From the integrated external bin to the low-profile screen stanchions, the automatically elevating navigator seat and the provision of extra corners (because people always like to sit in corners), this is a boat conceived and built with the most

astonishing level of care. But for the real anoraks among us, the ultimate treat has to be the undercut aft mouldings, which are designed to optimise laminar airflow, eradicating backdrafts and fumes. How wonderful would the world be if all boats were built this way ...

SPECIFICATIONS

LOA: 11.99m
Beam: 3.55m
Weight: 7700kg
Power: Single 400, twin 300
Engines: Twin D4 300
Fuel capacity: 700 litres
Top speed: 37 knots
Price: £298,500
Contact: www.wessexmarine.co.uk



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Premier Marinas' Motorboat and RIB Show

The only show of its kind on the South Coast, Premier Marinas is delighted to announce it will be holding a Premier Motorboat and RIB Show at Gosport Marina on Saturday 12th and Sunday 13th March from 10am to 4pm.

Set against the backdrop of Gosport's dry stack facility, this free to enter show will feature a mix of brokers and manufacturers. Exhibitors include Ribeye and Ribcraft showcasing a range of RIBs; Honda Marine, displaying Highfield RIBs, a Galia 750 HT and Galia 600 HT and Offshore Powerboats of Lymington offering powerboats from its award winning Axopar 28 range.

Premier tenant, Sea Ventures will be offering Jeanneau Merry Fishers - the all-rounder for family fun and anglers, plus onsite brokerage; Clipper Marine will be giving centre stage to the latest Bavaria motorboat sports range. Why Boats will display a Parker 660 Pilothouse and a Parker 660 Weekend at the show.

Also exhibiting at the show will be Gibbs Boat Sales with their award-winning Monterey Sports Boats and Cobalt Boats; and Berthon will be showing a Windy 29 Coho and a Draco 27RS. Boats.co.uk will be showing a Williams performance tender; Marine Matters a Brig Navigator 610 RIB and a Karnic Bluewater 2050; Bates Wharf will be offering a range of Bayliner and Beneteau boats and RBS Marine will

offer a range of Rodman boats. Brighton Boat Sales will also be showcasing Honda WaveRunner PWCs and a Sea Ray Bowrider; and SUP Company will be offering a range of quality paddle boards.

Besides boats for sale, other attractions include opportunities to demo and buy, plus advice on motorboat training, insuring your craft, electronics from Landau UK and further information on Premier's dry stack facilities at Swanwick Marina, on the River Hamble, Gosport Marina in Portsmouth Harbour and Falmouth Marina in Cornwall. Plus Premier will be inviting visitors to take part in a free prize draw to win a year's dry stack berthing for a boat up to 8m. Visitors to the event will also be able to see live demonstrations of how Premier's specialist marine forklift lifts boats from the dry stack and launches them into the water.

Graham Bristowe, Portsmouth Harbour General Manager commented, "It will be a valuable show for those who are keen boating enthusiasts who want to know about the benefits of dry stack and for serious buyers who want to view a variety of boat brands. We believe this open format with free entry is a great way to promote our dry stacks as the convenient alternative to towing, launching and recovery".

www.premiermarinas.com

Champions Crowned



The annual RYA Powerboat Racing Awards took place on Saturday 6 February and all the action from the evening's ceremony can be seen at <https://youtu.be/0LG8Nqebhlq>.

Over 70 awards were presented during the evening, from newcomer, P1 AquaX Ski Amateur Champion Harry Robinson, to T850 Champion Bill Owen, who has been racing for some 45 years. Winners of two new industry awards, Pertemps Network and Scarborough Borough Council, were also celebrated.

The evening was a great success, and thanks to the generosity of everyone who attended over £1,400 was raised for the charity of the evening, Help for Heroes. Special thanks also go to award sponsors Your Print Partner.

For more information about RYA Powerboat Racing visit www.rya.org.uk

SeaStar Solutions Update SONAR database

SeaStar Solutions' SONAR System database has been updated to include Yamaha engine parts found in the Sierra engine and drive parts catalogue. Dealers can register by visiting catalog.seastarsolutions.com.

For more information visit www.seastarsolutions.com

Rebel Marine Set up Water Sports Centre

Newly established Rebel Marine, based just two minutes from the Wightlink Car Ferry Terminal at Fishbourne on the Isle of Wight, have set up a new water sports centre and boatyard offering Safari RIB Rides on their 14-seater 600hp RIB, luxury RIB charter, and paddle board, kayak, sailing dinghy and bike hire. They can organise events including any of the above for team building, corporate entertainment, stag/hen parties, or indeed any special events or family treats.

Rebel Marine also provide RIB and small-powerboat storage and a dry sailing facility at their modern and well-equipped yard, as well as half-tide moorings in their small marina. The company can accommodate those wanting to come in their own boats and participate in water sports in Wootton Creek or explore some of the island on bikes. Alternatively visitors can arrive by car or as foot passengers on the ferry.

For further information visit www.rebelmarine.co.uk.



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RHIB 1050 RIB

Greg Copp lifts the lid on a new multi-purpose craft from the Damen stable that touches the very heart of purist RIB design ...



THE RHIB 1050 created by Damen Shipyards of Holland for use by special forces and naval search teams is a 55-knot 10.5m RIB powered

by twin 370hp Volvo D6s that has been built with a zero compromise approach. Based on a sharp deep-vee hull, 'it is not your average RIB', as Roel Foolen of Damen Shipyards put it.

The Lloyd's-approved hull is built

with an epoxy composite as opposed to conventional polyester. Strengthening is further enhanced by a closed-cell foam core, which is much stronger than conventional foam cores. Closed-cell foam will not absorb water in the event of hull damage, and by its nature does allow any resin penetration during lay-up, thereby increasing laminate strength in the process. However, it does require a lot more crafting in the

construction process, as heat is often needed to shape it. As is often the case with military/commercial craft, Damen have chosen not to step the hull, the only embellishment below the waterline being three substantial full-length spray rails.

Impressive though the hull is, inboard the boat is where Damen's design excels. Ergonomics have been closely focused upon, in particular the console. The first



prototype had a mock-up console that was tweaked and modified in line with feedback from sea trials, until the perfect match was achieved for the helmsman. To keep everything functioning and effective in the worst weather conditions, the console instrumentation is housed within a watertight heated compartment viewed through a window that will never mist up. The electrics are likewise enclosed in a watertight heated chamber to prevent any potential moisture issues – so no plotter or radio failures if the boat gets swamped or capsized. And smaller details do not go unnoticed, such as incorporating lifting eyes into the boat's bollards so there are no trip hazards.

What is particularly different about the RHIB design is that the engine is





Console at night: The console is well lit for night passages.

housed under the console instead of in an engine bay at the stern. The concept is brilliant as it gets the 1300kg of the combined weight of two D6 engine blocks 2 metres forward of the transom, leaving just 200kg of sterndrive weight at the stern. This hugely benefits hull efficiency as well as improving fore and aft trim, not to mention enabling the boat to maintain low planing speeds when sea conditions dictate. It does however require two extended driveshafts to connect the engines with the sterndrives. Engine access is obtained by the complete console hinging aft, enabling service teams to gain easy access to uncluttered engines. For stowage on board a mother ship, the console-mounted radar mast also hinges back. The two 350L fuel tanks are located beneath the seating fore and aft of the console; in the case of the aft tank it lies above the driveshafts. To enable easy access to these tanks, the deck sections to which the seats are mounted are in effect large watertight hatches

that lift away – a sensible feature for a boat that may well have to operate in parts of the world where fuel quality is questionable.

The 10 suspension seats that accommodate the crew are Ullmans – arguably the best seats in the business for keeping your spine intact, which at £1,500 each they should be. The heavy-duty armoured Hypalon sponsons are bolted to the hull via aluminium sealing strips as opposed to conventional adhesive bonding. Consequently they are far less likely to part company with the hull when running into big head seas. Like any good offshore RIB, the sponsons are raised at the bow. Unusually they take on an asymmetrical D-shape profile from the console to the stern. This is to make movement past the console easy, as symmetrical sponsons rob the boat of that crucial aft inboard crew space. The deck is as low as possible to improve the centre of gravity while enhancing weather protection. Mounted on the transom is a

diving platform that serves to protect the sterndrives when boarding other vessels stern-to.

Damen intend to build further versions of the RH1B 1050, based on the same hull platform, which will be fitted with two 400hp outboards. The only production 400hp outboard at the moment is the recently released supercharged 400hp Mercury Verado built for race use, but the unburstable Yamaha F350 is another possible option. However, when you consider the 1300ft/lb of combined torque produced by two 370hp Volvo D6s, the Verados, supercharged or not, will fall short of matching the D6s.

Production is based at Damen's specialist composite yard in Antalya in Turkey, so we can only hope it is not long before we see a commercial version operating off our shores at some point.

PBR

Contact : www.damen.com



The console is about as serious as any offshore console can be. The primary instruments are sealed behind a waterproof window and all the switches are waterproof stainless steel push buttons.



Engine: Easily located beneath the console, the weight of the two 5.5L Volvo D6s is pushed forward.



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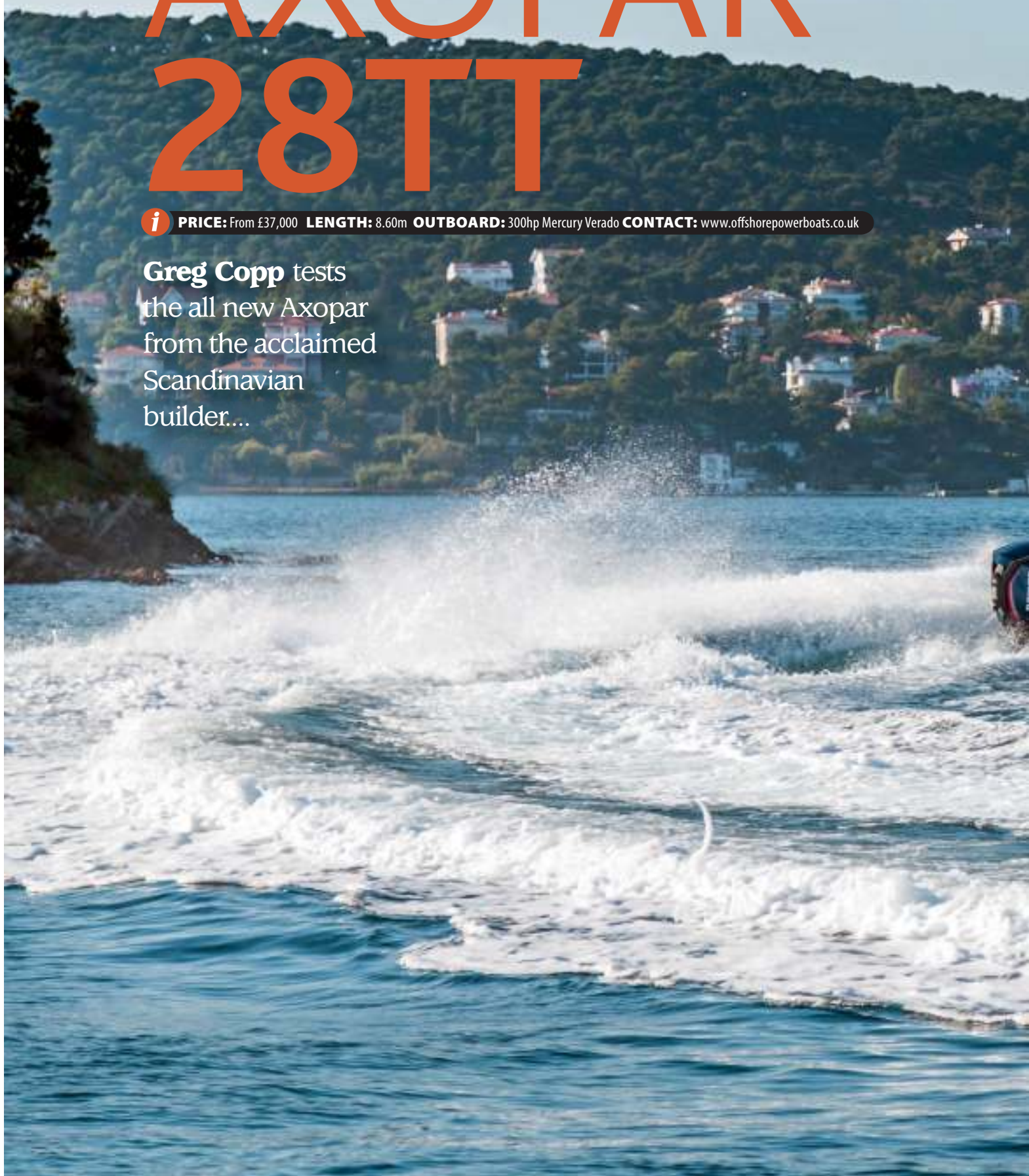
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BOAT TEST
Axopar 28TT

AXOPAR 28TT

i **PRICE:** From £37,000 **LENGTH:** 8.60m **OUTBOARD:** 300hp Mercury Verado **CONTACT:** www.offshorepowerboats.co.uk

Greg Copp tests
the all new Axopar
from the acclaimed
Scandinavian
builder...



Eds Note: The photos shown in this review were taken on a different day from the review and in different sea conditions.





IT LOOKED LIKE a line drawn in the sea, similar to a Google Earth photo overlay. The line ran west from Hurst Castle to the

Isle of Wight. It marked the demarcation between the sanity of the Solent and some of the sharpest and shortest chop I have come across. With the wind blowing hard from the west and the tide funnelling out against it through this notorious spot, I should not have been surprised. However, to do the Axopar justice I needed some testing conditions, and that is exactly what I got.

Closing in, I backed off from 40 knots and moments later I was in a totally different world. We hit the first crest expecting a hard, wet dose of reality; instead we crested two wave tops with the boat's sharp, vertical stem making light work of the fury around it. I was expecting a spine-jarring roller coaster ride with the intensity of the

sea pushing the boat down to semi-displacement speed. Instead, the Axopar cut its way through the angry water in a reassuringly determined manner. I eased the throttles forward again and noticed we were now doing 29 knots – an impressive speed for a 28ft boat in such weather. The rakish Axopar is clearly built to deal with head seas, and that is exactly what it did. As the Needles drew closer and the sea became steeper, it was soon apparent why I was the only boat out, and it was clearly time to test the boat's stern sea credentials.

She turned sharply and securely as she ran up, over and then briefly beam on to the chop. It was one of those moments when you wonder if you have judged it right. However, unless you have a death wish, the Axopar is built to take some of the guesswork out of helming in confused water. Boats that combine a full beam aft of amidships with a sharp fore section can have a tendency to dig



The 300hp Mercury Verado is a great match for the Axopar, but more choice in this department would be nice.

the bow in, so I was keen to see how she performed with the sea snapping at the stern. Even with the motor initially trimmed in, she kept a level head. With the engine then trimmed out, I could nail the throttles, with the weather spitting us back out into the calmer waters of the western Solent.

Without doubt, powered by a

i ONBOARD THE AXOPAR 28TT...



The forward seating can be expanded to a single sun pad with an infill.



The hidden anchor locker is superbly finished internally – no rough moulding here.



Lockers on both quarters are just right for fenders and lines.

supercharged 300hp Mercury Verado outboard the Axopar 28TT is a fast boat. I recorded a two-way average of 45.6 knots – a tad short of the 48 knots I was told she can achieve with a clean bottom. She is capable of incredibly tight sure-footed turns, with her stepped hull showing not the slightest intention of losing the plot. Steering is quick and responsive. The wheel and throttles are perfectly positioned whether you sit or fold up the seat bolster and stand. Weather protection from the wrap-around windscreen and T-top is superb, especially considering the sub-zero January conditions of the day. Her sweet spot is around 30 knots, which equates to 2.7mpg according to the fuel flow meters, though Steve at Offshore

When you consider what you are getting for your money, the Axopar 28TT is a no-brainer for the wind-in-your-hair powerboater.

Powerboats has found that 26 knots with a clean bottom is the boat's most frugal speed. One thing is for sure – 30 knots feels like walking pace, especially with such a level of weather protection. If you feel the need to drop the speed down to 22 knots, which I doubt, you will still get 2.7mpg. However, once you start hitting 40 knots, the supercharged thirst of the 300hp Verado makes itself felt at 2.25mpg. Flat out at 45.6 knots, with the tachometer notching 5500rpm, she was guzzling fuel at a rate of 29gph, which equates to 1.57mpg. These figures are par for the course for a powerful petrol engine, but on a calmer day with a totally clean hull you could easily improve on this.

True to Scandinavian form, the Axopar is no less impressive when it comes to functionality and practicality. On top of building an open boat that can be used safely in all but the worst conditions, the yard has slipped in some discreet accommodation – so discreet that you could be forgiven for not knowing it was there. A heads is built into the front of the console, accessed by a sturdy secure door. This compartment has been built deep into the hull, so it is no shoebox affair, and is complete with

i ONBOARD THE AXOPAR 28TT...



The helm and navigator's seats can be turned round.



The T-top and the wrap-around windscreen do a good job of keeping out the elements.



The top still gives you that open-boat feel while providing weather protection. If things really get bad you can quickly zip in the front cover.



Access to the mini cabin is a quick affair. The mini cabin and berth is bigger than it initially looks and is more than enough for most couples.

SPECIFICATIONS

LOA: 8.60m
Beam: 2.85m
Transom deadrise angle: 22 degrees
Displacement: 1690kg (no engine)
Power options: 150 to 350 hp
Fuel capacity: 260 litres
RCD category: C for 8
Test engine: 300hp Mercury Verado
Price as tested: From £37,000 plus engine and many extras

PERFORMANCE

45.6 knots (2-way average), sea conditions moderate, wind F4 gusting F6

CONTACT

Offshore Powerboats Ltd
 Lymington Yacht Haven
 King's Saltern Road
 Lymington
 Hampshire
 SO413QD
www.offshorepowerboats.co.uk

guard rails. The hidden anchor locker is superbly finished internally, with not a hint of the compromise that is often found in such out-of-sight places. To complement the aft sun pad, an infill turns the forward seating area into a second sun bathing spot if need be. Lockers on both quarters are just about adequate for all fenders and warps. Of course, like any sports boat worth its salt, it has a large bathing platform – comfortably large enough for a semi-deflated towable inflatable toy.

VERDICT

Scandinavian boats in many ways are like German cars – distinctly solid and irresistible to those with practical taste. The GRP-built Axopar 28TT, like the recent plethora of fast offshore craft hailing from the Baltic, has radical and aggressive styling. Rightly this yard, like many from the region, has calculated that its boats will prove equally popular alongside the comparatively conservative boats of southern Europe.

In the same way that the RIB proved a hugely popular alternative to the stern-driven weekender, the Axopar presents an equally popular alternative to the RIB. When you consider what you are getting for your money, the Axopar 28TT is a no-brainer for the wind-in-your-hair powerboater. If you want something different to the 28TT, there is also a cabin version and a totally open boat. **PBR**

THUMBS UP

- Great seakeeping and handling
- Rapid performance
- Solid build quality
- Practicality/safety
- Easy movement on deck
- Good weather protection

THUMBS DOWN

- Just one engine manufacturer on the options list
- Long extras list, some of which should be included as standard items.

sink and mirror. Such 'luxuries' are not uncommon in Finland, where people use fast, smaller boats to cover relatively long distances, often in the course of commuting. From my experience, the concept of trying to get family members to cross their legs while you enjoy the coastline at 40 knots does not work. In the event that you need to overnight in some tranquil setting there is a double berth hidden beneath the double sun pad, accessed through the aft bench seat. It is deceptive in size and quite capable of accommodating the largest couples, providing they do not want to stand up.

The cockpit and deck areas clad extensively in G2 Flexiteek are typically Scandinavian. Moving forward underway on fender duties is blissfully easy with high bulwarks topped with rock-solid



You could be forgiven for not knowing that the heads existed.



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MARLIN 23S

After a bit of a lay-off for a few years, Marlin RIBs are back in the UK with new representation and a new range of models. **Simon Everett** visits JBT Marine to see how the new 23s shapes up.

i **PRICE TESTED:** £84,360 (Yamaha F300) **LENGTH OVERALL:** 6.90m **MAX HP:** 300hp **MAX. PASSENGERS:** 10 **TEL:** 0870 908 9336



THERE ARE VARIOUS species of Marlin that roam the oceans. The most well known is the blue Marlin found in two forms, the Atlantic and the Pacific variants, but there are also black, white and striped Marlins roaming the oceans. The only one that is found in British waters, though, is of Italian origin – it is a RIB that was spawned in 1986 from the boatyard of Sergio Selva and his sons, Stefano and Cristina.

In this, their 30th anniversary year, no fewer than 10 models are available

from 17ft to 38ft. We picked a representative model from the middle of the range, the venerable Marlin 23s. At 23 feet, she is a popular size for British waters and is one of the most popular of the range in other markets too. The test boat was powered by the potent V6 Yamaha rated at 300hp, a partnership that goes together as well as Prosecco and Parma ham.

In the Marlin workshops, all the research, designing of projects, product development, testing, mould building

and final production are carried out in-house. By having total control over the entire process, the Marlin staff can bounce ideas off each other and work together to perfect a plan, then carry out that plan as they intended.

In the early days of Marlin, when the stepped-tube design was new on the scene, the style took a bit of getting used to and the fittings were not of the standard that they are now. In the holiday period that Marlin have had from UK sales, the production,





High riding, the complex hull moulding keeps the eye occupied



The big tubes keep the boat dry

Buyers of the Marlin aren't after a weather-beating workboat – they become owners for the on-board attractions ...

fitting out and fittings have all been vastly improved. The style has become accepted and the brand well established as a quality product, with many happy owners throughout Europe and further afield.

The Mediterranean is the natural habitat of the Marlin, as might be

expected, but that doesn't preclude British owners from enjoying the al fresco lifestyle for which the 23s is designed; and for those who prefer inboard power, that option is available, with the associated change in layout at the stern to accommodate the MerCruiser 4.5-litre V6 turbo diesel that is the most popular choice of engine in this configuration. I didn't get to see the inboard version; my test boat was rather more sporty, with the venerable Yamaha F300 V6 outboard mounted proudly on the transom, which creates a sensible, sporty RIB for family fun and enjoyment.

There was a time when you could tell a Marlin a mile off by the distinctive stepped-tube profile. It was quirky, but soon other RIB builders started to incorporate the same idea and now it is an accepted design that has stood the test of time. On the modern Marlin



Very good sized sunbathing area.



Convertible aft seating.



Stylish, robust fittings throughout.



The build quality and rigidity are apparent when you get a chance to drive one in the kind of conditions we had.

A solid ride with a good turn of speed

the difference isn't as marked as on the early models; it is now more of a wiggle than a defined Z-shape, but it still provides additional freeboard forward for the high prow and extra hull volume.

The hull shape consists of a sharply defined entry with an aggressive running strake and double, overhanging chines. The complexity of the hull shape above the waterline, with clean, sharp edges, tips a wink to the quality of the mouldings. These are topped off with fittings of a similar standard, again produced in-house to complement the overall style.

As is the Italian way, the emphasis is on using high-volume tubes with a 50cm-diameter collar all around, separated into five different chambers and fitted high enough off the water not to come into play until really needed, or at rest. The rigid hull lifts high enough to take the tube off the water unless acted upon by a wave. This results in a driving experience very similar to that of a rigid boat, just with the limitation of heel due to the stabilising effect of the inflatable collar.

The build quality and rigidity are apparent when you get a chance to drive one in the kind of conditions we had. It felt secure taking on a substantial south-easterly swell; with the boat becoming airborne at times, the landing and pounding were soaked up happily and the ride was very acceptable. This isn't meant as a boat for harsh conditions, but it is comforting to know that should you get caught out, there is a decent reserve of capability to see you back in again. To be honest, the day of the test was not one you would willingly choose to go out playing in, unless you relish the challenge. In terms of pleasure

i ONBOARD THE MARLIN 23S



The helm is protected and well appointed. Wooden wheel is a nice finish.

WE LIKE
Well appointed helm, flexible options and classy finish



Aft seat has flexible options. (See picture, bottom left)



No, it isn't Easter Island, it is the windlass cover. Split moulded arch and bimini grace the stern.



The F300 gives the Marlin a good turn of speed.

The layout, features and aesthetics are family-friendly and will suit cruising exploration activities and water sports enthusiast families to a T.



SPECIFICATIONS

LOA: 6.90m
Internal length: 5.55m
Beam overall: 2.58m
Internal beam: 1.55m
Dry weight: 780kg
Fuel capacity: 200 litres
Fresh water: 40 litres
Max. passengers: 10
Max. power: 300hp
Tube diameter: 50cm
Tube material: Hypalon 1300gsm
Number of chambers: 5

PRICE (INC VAT)

As tested with the Yamaha F300 and options fitted: £84,360 (inc. VAT)
 Test Boat provided by JBT Marine, Trafalgar Wharf, Hamilton Road, Portchester PO6 4PX

CONTACT

JBT - Telephone: 0870 908 9336

boats, we were the only motor boats out that day, just the Marlin and the photography platform. Other than the fact that there was a sea running and the wind was pretty fierce, it was a fine day that allowed the Marlin to display her comfort in less than ideal conditions.

Buyers of the Marlin aren't after a weather-beating workboat, though – they become owners for the on-board attractions: the convertible seating at both ends that turns all bar the console and seat pod into soft sun decks; the useful stowage that is provided in three main compartments, one in the bow, another under the helm seat and the largest under the stern sun deck area; and the attraction of the privacy within the console, for comfort breaks.

The wide beam of the Marlin makes access around the boat easy, with plenty of room between the console and the 50cm-diameter Hypalon tubes. This is an aspect that some RIBs lose out on, with the walkway between the console and the tube being narrow and restrictive.

The Marlin range is designed for enjoyment rather than bravery. The layout, features and aesthetics are family-friendly and will suit cruising exploration activities and water sports

PERFORMANCE

RPM	Speed (knots)	Fuel (L/hr)
600	2.9	2.5
1000	5.2	5.3
2000	10.2	14.4
2300	12.4	16.3
3000	21.0	26.2
3500	26.1	34.8
4000	32.1	48.4
5000	39.3	81.5
5600	44.3	102.4

enthusiast families to a T. The quality has been increased since I first saw them, and now they are definitely in the upper echelons of the RIB market. **PBR**

Open moulded A-frame gives greater headroom for access



LIKES

- Solid build with quality components
- Generous stowage
- Ease of movement around the boat

DISLIKES

- That split, moulded A-frame

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ON THE WATER
West Coast Adventure



West Coast Adventure

Peter Talbot recounts the tale of his 65-mile, five-day journey from Arisaig to Sligachan in a 3m Zodiac SIB through some of Scotland's remotest and most spectacular scenery.

SINCE DISCOVERING THAT mainland Britain's remotest pub, The Old Forge at Inverie (on the Knoydart peninsula), is an 18-mile walk from the nearest road, and yet only 5 miles by sea from Mallaig, I'd planned to investigate this remote

region of Scotland further. Research showed that the area north of Mallaig promised impressive mountain scenery with an interesting coastline that would make a great follow-up journey to my Norwegian fjord adventure (see PBR issue 124) in

my 3.1m Zodiac inflatable. So when Graeme (my most frequent crewmate in the 10 years I've had Zodiacs) agreed to the plan, we fixed a week in July and the trip was on.

Ready to start packing the car the day before departure, I turned the key in the ignition and found the battery had chosen that day to give up – a little inconvenient, but at least it wasn't the morning of the day after. A quick jump start and return trip for a new battery had me packing the car only 30 minutes later. Having already undertaken five



Day 1 - About to set off from Camusdarach.

multi-day Zodiac/camping journeys along similar lines (i.e. the Caledonian Canal twice, the River Thames, the Göta Canal/lakes in Sweden and Norwegian fjords), loading the car has become a fairly well-practised routine.

I'd pre-booked our first night at Camusdarach campsite, Arisaig, as while there are several sites in the area, it was peak season and I wanted to guarantee a pitch on a site with both



About to leave Glenelg.

beach access and somewhere to leave the car for a week in our absence. After arrival, a busy couple of hours saw the tent up, bags packed and the boat made ready for the next day. The friendly campsite has its own quiet beach three minutes' walk from the tent pitches. We moved the boat by hand along an undulating grass track, to near the start of the beach.

The forecast for the next morning

was good, so with a calm sea and light winds we launched early and departed at 08.00 bound for our next campsite at Inverie (close to The Old Forge). We passed Mallaig, after slowing to let a ferry bound for the harbour pass well ahead. Turning east into Loch Nevis (Nevis meaning 'Heaven'), we experienced a little chop caused by a slight wind coming from the east. Crossing safely, we entered the large

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Long Beach campsite - grass roofed cabin

COASTAL WILDLIFE

A rich variety of wildlife can be seen on Scotland's west coast. The main animals you're likely to spot include seals (both common and grey) and a range of seabirds. Otters can sometimes be seen, and also porpoise, dolphins and on occasion whales (the minke whale being the most common around Scotland). There's also a chance you may spot a white-tailed (sea) eagle, which is the UK's largest bird of prey.

bay and approached Inverie, before heading past the village to Long Beach campsite. The clear water meant we could see the seabed while still around 200 metres off the shore, so we proceeded cautiously in case it got shallower, but with the tide high, and the bottom of the bay being very flat, there was sufficient depth for the engine right up to where the beach rose slightly and the campsite began. A few yards back from the beach (with excellent views of the surrounding bay and mountains), the idyllic campsite consisted of several pitches (only three were occupied), where longer grass had been kept short, and two cabins (both with turf roofs), one holding a modern high-tech composting toilet and another for eating in, with a washing-up bench and tap round the back. The sign on the tap said that while the water was the same as that supplied to everyone on the Knoydart peninsula, as it came from an untreated natural source, users were advised to boil it before drinking. Working out at only £3.50 per person per night, this campsite had everything we needed, and was ideal for us.

Checking the weather that night in



Above: Inverie. Top: Long beach campsite. The Old Forge pub, Inverie. lunch at Aitor on our walk.

the The Old Forge on their free Wi-Fi, we decided on a walk around the peninsula the next day, as winds were going to be too strong for us on our journey north. Our 12-mile circular route followed a single-track road from Inverie to the sheltered bay at Aitor, then became more 'off road' along the shoreline, and required a river crossing just before Inverguseran. Opting to cross at a shallower, slower-moving but wider point, our progress without shoes (we wanted to keep them dry for the remaining 6 miles) wasn't fast over the



The Old Forge Pub in Inveries

IN THE 12 MILES WE'D ONLY SEEN FOUR OTHER WALKERS.

greasy rocks, but we made it without any slip-ups. In the 12 miles we'd only seen four other walkers.

With the winds dropping that evening, we spotted a weather window for the following day, which would give us plenty of time to reach Glenelg (20 miles away). As usual, we took the precaution of identifying several other places to stop and camp en route, in case changing weather also required a change of plans. To take advantage of the start of the best of the weather (forecast to start around 6.00), we'd be departing at low water, meaning that although we'd have some distance to get everything to the water's edge (the flat bottom of the bay meant the tide went out a long way), we'd have



Right: Our walk around Knoydart.

the benefit of a flooding tide once afloat, helping push us north-east up the Sound of Sleat. Waking just before 04.00, we had everything by the water's edge (after a portage of around 150 metres) by just after 05.15. With no mobile signal, I logged a passage plan with Stornoway Coastguard from the payphone at the nearby youth hostel, and when they said VHF cover was poor in places on our intended route, I said I'd keep them informed of our plans by telephone. We launched and loaded the boat, and as it approached 06.00 we paddled beyond the shallows before starting the engine.

Making good progress, we rounded the dramatic end of the Knoydart peninsula (with its rocky islands) without a problem, and were soon in the Sound of Sleat. With the tide filling and slight wind and swell from the south-west, we were helped on our way, soon passing our lunch spot from the previous day at Airor. The

THE KNOYDART PENINSULA

The rugged 85 square miles of the Knoydart peninsula includes three Munros (mountains over 3,000ft) and is a designated National Scenic Area. With the only overland route to it being an 18-mile walk from the nearest road, Inverie (with a population of approximately 50) has a strong 'island' feel about it. Frequent passenger/supply boats

connect its pier and slipway to Mallaig, so if we'd needed we could have used this service to get back to Mallaig. Vehicle transportation is available via landing craft-type vessels, though with only a short road network on the peninsula, users will mostly be local traffic and service vehicles. In 1999, the Knoydart Foundation bought out the Knoydart Estate, which covers most of the peninsula. Among the aims of the trust is the preservation of the local landscape, wildlife and cultural heritage.





Above: Day 3 - Glenleg. Right: The Sound of Sleat.

THE BOAT AND ENGINE

The Zodiac Cadet 3.1m inflatable (with wooden floor) can carry five people. It has two main inflation chambers, and an inflatable keel (giving shape beneath the floor, to improve performance). With two people on board, there's sufficient space for a week's camping equipment/supplies. Rolled up, the boat fits into a standard hatchback car and can be inflated and made ready in around 30 minutes. While the boat can take up to a 15hp outboard, the 6hp provides enough power on my trips, and uses around 0.3 litres per mile (in journey/camping mode). My boat was bought new from PA Lynch Ltd, who also fitted the removable transom wheels and under-seat anchor points for the fuel tank. While obviously not as seaworthy as a larger RIB, and shorter than other inflatables such as the Vanguard 435 and 4.8 Humber (see PBR issues 129 and 126), I've found the boat and engine combination an excellent compromise of cost, size, portability and capability when used within its operating limits.



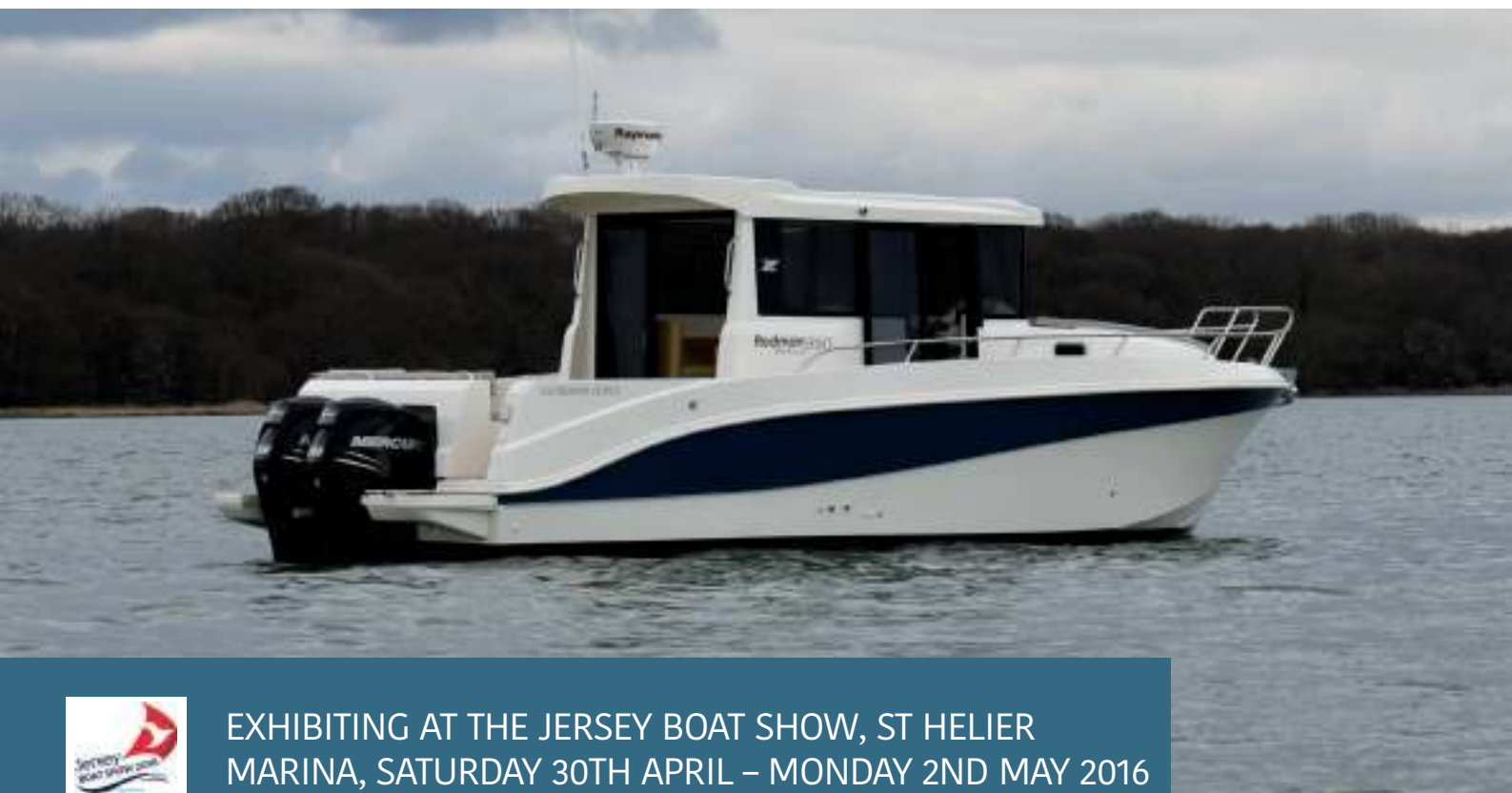
scenery around Loch Hourn (Hourn meaning 'Hell') was very reminiscent of the fjords last year, but, keen to make progress in the favourable conditions, we crossed its mouth and continued on our way. Passing between the Sandaig Islands (near where Gavin Maxwell lived while writing *Ring of Bright Water*), we did the remaining 5 miles to Glenelg, noticing an impressive waterfall on the east shore just before our arrival. With the tide now nearing high water, we were able to easily enter the natural lagoon created by beach shingle in front of the Glenelg Inn, where the owners

had previously kindly agreed we could camp in the inn's garden. Having completed our planned distance for the day, and with the wind beginning to build again, we were happy to set up camp, as although it was still before 10.00, we'd already done a near six-hour shift.

As in Inverie, stronger winds forecast for the day after arrival meant we decided to stay a couple of nights. This gave us time to see some of the local area and enjoy a couple of evenings in the Glenelg Inn – a very traditional, popular and friendly Highland inn,

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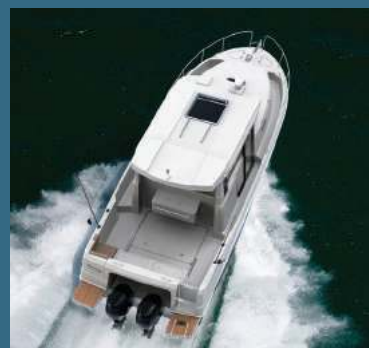
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complete with roaring fire. The village of Glenelg is known for the small locally owned and operated car ferry to Skye, which is run across Kylerhea. Glenelg has two brochs (fortified stone round houses built approximately 2,000 years ago), Dun Telve and Dun Troddan. Among the best remaining on the Scottish mainland, these are well worth the hour walk from the village. In 2012, Glenelg, in association with the missions of the Mars rover Curiosity, was twinned with Glenelg on Mars, and a ceremony was held in the village to mark the event.

SUMMARY OF COSTS FOR THE SEVEN-NIGHT TRIP

The breakdown of our total costs for the seven-night trip is outlined below (the cost for Graeme and me, each, is simply the total, split in half).

Fuel for car = £91

Fuel for boat = £23

Total spent on camping = £69

Food = £80 (not including a pub meal on the last night)

Public transport back to car = £22

Total cost = £285

Cost per person (based on two people sharing costs) = £285/2 = £142.50

With the forecast for the following day set to improve dramatically, we rechecked the tide times for getting through the narrows of Kylerhea. With tidal currents reaching 8 knots in peak flow, we wanted to transit near slack water. So, with an excellent forecast, we chose another early start to meet the 07.00 tide window, to make the most of our last day on the water for this trip. The low tide meant the lagoon's water level was nearing empty, so the boat had to be partly wheeled/floated across to the gravel banks before it could be fully launched, with us carrying the gear round separately.

Getting away after logging a broad passage plan with Stornoway Coastguard (covering the various options we'd been considering), we passed easily through Kylerhea with no discernible tidal flow, noticing a large number of jellyfish just before we exited into Loch Alsh. With the great weather set for the rest of the day, we chose to make the most of it and press on west to Kyle of Lochalsh (where we topped up with fuel). Passing under the Skye Bridge we continued to head west, watching the Isle of Pabay go by and enjoying the magnificent scenery all around us – including the high peaks of the Red Cuillins on the Isle of Skye in front of us, and views north-west to the Isle of Raasay and north-east



Top Left: Day 4 - Lagoon at Glenelg. Waterfall on the walk to the Brochs. Dun Telve, Glenelg

to Plockton and beyond. We headed between the Isles of Scalpay and Skye and, having easily passed some of the camping options we'd identified earlier, decided to make for the campsite at Sligachan. While we knew access from the water wouldn't be as

USEFUL LINKS

Mainland Britain's remotest pub
www.theoldforge.co.uk

Knoydart Foundation
www.knoydart-foundation.com/coming-to-knoydart/other-accommodation/camping

Stornoway Coastguard
www.gov.uk/government/organisations/maritime-and-coastguard-agency/about/access-and-opening#hm-coastguard-and-search-and-rescue-offices

Met Office
www.metoffice.gov.uk

Traveline Scotland
www.travelinescotland.com/welcome.do

Petrol station locations/contact details
www.nearestpetrolstation.co.uk

Scottish Outdoor Access Code
www.outdooraccess-scotland.com

Simon Willis's book *Scottish Sea Kayak Trail* contains details of tides and accommodation, plus lots more.

straightforward as it had been with our previous campsites, we also knew we'd have great views of the Black Cuillins. Once at the end of Loch Sligachan, our shallow draught allowed us to get a little way up the Sligachan river, and from there we relayed most of the gear on foot to the campsite. At around half a mile, this overland section was a little further than we'd hoped for, but it was soon done. We took the boat off the water later that evening at Sconser and got a lift from the kind owner of the campsite back to the site. Encountering midges in sufficient number to warrant donning head nets for the first time, we cooked our evening meal.

As on my previous A to B boat journeys, the penultimate day was spent recovering the car. Getting an early bus to Armadale, I then caught the ferry to Mallaig (where I can recommend the cooked breakfast at the Fisherman's Mission), followed by a taxi back to the car at Cambuslang campsite. As I hadn't booked a ferry crossing with the car (not being sure where/when we'd finish our journey), I chose to drive back on the longer road route, via Fort William, and over the Skye Bridge, rather than

Left: Foxgloves on the walk to the Broch's. Top: Day 5 - Rainbow at the Sligachan campsite. Below: Kyle Rhea



I'VE FOUND THE BOAT AND ENGINE COMBINATION AN EXCELLENT COMPROMISE OF COST, SIZE, PORTABILITY AND CAPABILITY...



OUR ROUTE



QUITE SIMPLY, NOTHING BEATS GOOD PLANNING.

retracing my route from that morning, which would have required waiting some time for an available space on the ferry.

With the car back at the campsite, live music in the nearby Seumas Bar adjacent to the Sligachan Hotel tempted us to treat ourselves to our first 'meal out', and we enjoyed an excellent dinner to mark the end of our journey.

HOW THIS TRIP COMPARED WITH EARLIER TRIPS

With similar mountain scenery to what we'd experienced on earlier trips, we knew there'd be the potential for associated 'mountain-type' weather. The main difference this time was the need to take stronger tides into account. I'd previously only experienced tides on coastal day trips as we'd had virtually no tidal effects in the Hardanger and Akra fjords, and none on trips on the River Thames, the Caledonian Canal or the Swedish canals/lakes. Tidal currents can be strong on the west coast, so we avoided peak flows (which meant planning ahead and some early starts). The associated tidal range meant we used our 'detachable' launching wheels to get the boat/engine out of the water and above the high-tide mark overnight. This allowed us to camp near the boat on sites near the water, rather than requiring us to find jetties/pontoons to tie up to (which aren't always around in this more remote region) and then camping elsewhere. The tidal range



Day 5 Peter at the helm through the narrows of Kyle Rhea

PLANNING A TRIP YOURSELF

As well as being essential for safety purposes, planning ahead of trips allows you to get the most out of your time away and can be part of the enjoyment. Quite simply, nothing beats good planning. Some of the main steps involved include:

Finding an interesting and suitable area that'll be within you and your crew's experience and skills, and also within the capabilities of your boat.

Examining charts, maps and books (and combining the different types of information they provide) to identify realistic day passages and accommodation options for yourself and your boat (but that also offer plenty of safe 'bailout' options if weather deteriorates). Charts provide buoyage, tidal (strength and direction) and depth information, while maps provide useful supplementary information such as the positioning of roads, paths, campsites and even public phone boxes (should a mobile signal not be available). Sea kayak guides can also provide excellent information. Simon Willis's superb Scottish Sea Kayak Trail book does so, and explains the tide directions and strengths in the area of our trip (and beyond).

Investigating campsites. Are they located near the water's edge? Are there temporary moorings, a pontoon or a slipway? Do they recommend booking ahead or can you just turn up (which makes things more flexible). If you're planning to wild-camp, consult access regulations (see link below).

Checking where you'll get any necessary supplies on the way (e.g. drinking water, food and fuel, and even weather forecasts).

Establishing how your overland travel will work (where you'll launch, leave the car, and how to get back to it at the end if it's an A to B trip).

Ensuring you have the necessary documentation (e.g. third-party insurance for some managed waterways in the UK).

Producing checklists to ensure you don't leave anything at home.

Planning how you'll get the latest weather forecast information (Wi-Fi, mobile phone, VHF, FM radio or payphone?), and how you'll keep the coastguard and someone at home aware of your plans.

For a suggested kit list and further safety considerations, see 'Norway Adventure' (PBR issue 124).



Graeme at the helm in Kyle Rhea. Graeme cooking at Sligachan campsite (wearing a midge head net)

and seabed profile meant in some places the tide went out a fair distance, so the boat and bags had to be relayed up/down the beach over several trips.

The weather intervened more than on previous journeys, with strong winds giving us a couple of days

to explore local places of interest, which isn't something we've always done as much of on previous trips, as we've tended to move on with the boat each day. The excellent weather experienced on our last day had stood out on the forecast for several days beforehand, and allowed us to enjoy the fantastic Isle of Skye scenery at its best.

Without the need for overnight car ferries and extensive road journeys (unlike the trips in Norway and Sweden), or the requirement for boat licences (like the Caledonian and Göta canals, and the River Thames), the cost of this trip was one of the lowest yet, and the journey was a truly memorable adventure through some of Scotland's more remote areas and spectacular scenery. **PBR**

ABOUT THE AUTHOR

Peter Talbot has travelled a combined distance of over 1,200 miles in his Zodiac inflatable boats over the last 10 years. Away from boats, he's ski-toured in Greenland and Svalbard, helped monitor a Norwegian glacier and undertaken fieldwork on the Ross Ice Shelf in Antarctica.

BOAT TEST
Selva Elegance 6.7m

SELVA ELEGANCE 6.7

When it comes to design, the Italians are masters of their craft. Simon Everett savours the stylish Selva Elegance 6.7 against the beautiful backdrop of Lake Como.

i **PRICE TESTED:** £36,908 incl VAT **LENGTH OVERALL:** 6.65m **HP:** 100–150 hp **PASSENGERS:** 6 **CONTACT:** www.selvamarine.co.uk

Ed's Note: Incorrect killcord attachment & no lifejacket - not uncommon in Europe!



**PBR
TEST
REPORT**

WITH THE ITALIAN Alps and a shimmering lake in the background, the Selva Elegance really looks the part. The sweeping lines and open sports layout that are so favoured in the Mediterranean hint at her RIB-building boatyard heritage from Italboats. There the similarity ends, though, as the high freeboard and spacious deck are a world apart from a RIB of similar size.

The hull shape is designed to cope with the nasty chop that can quickly spring up on the south coast of Italy. It is similar to the moody Solent with short, sharply cresting seas whipped up by the afternoon breeze, and so

she will be ideally suited to the kinds of seas we have to deal with here at home. The high freeboard, flared bow and multiple running strakes provide massive amounts of lift and water deflection, ably demonstrated in the 1-metre-high swells we had, even on Lake Como. The other journalists testing thought David and I were mad to go out round the corner in search of some proper water, such as there was! They all stayed tucked in the lee of the headland on calmer water, but there is nothing like a bit of rough stuff to really show a boat's mettle and get some more dramatic pictures.

The hull dynamics provide a fast, stable and soft-running platform to

place the people-carrying bits on. Built from a lightweight laminate with stiffening where it matters, the hull rides beautifully – even taking a wave on the cheeks of the bow, heeled over, didn't create any hard smacks, the curvature helping to smooth the transition over the wave without any dramatic banging and slamming. I was thoroughly impressed, and when, in those conditions, I was able to maintain nearly 40 knots from just 150hp, my eyebrows were well and truly raised. This boat has a great hull, built for taking on the sea, and a sensible interior with an Italian blend of practicality and simplicity.

The centre helm design has been



BOAT TEST Selva Elegance 6.7m



Swift, poised and elegant in the one package

SPECIFICATIONS

Length: 6.65m
Beam: 2.5m
Weight: 950kg
Max. power: 152hp
Recommended power: 100–150 hp
Max. payload: 945kg
Max. people: 8
CE Cat: C

PRICE (INC VAT)

£36,980 incl VAT
 As tested with Selva 150XSR: £

CONTACT

www.selvamarine.co.uk
 Dealer: JBT Marine www.ribsforsale.com

utilised to the full, with some innovative ideas for optimising space. The seating and console design have been arranged to provide ease of movement around the boat. Both the forward cockpit

and aft area can be fully cushioned to create two large sunbathing areas, without encroaching on the area around the helm seating and console, leaving the midships portion clear to move around. The aft seating comprises a wrap-around U-shape that services a rectangular double-pedestal table. With the table dropped as an infill, the seating converts into a sunbed. A similar type of arrangement in the bow, with two side infill cushions, creates a second sunbed.

Stowage is located under the forward seating, with a large, RIB-style hatch cover hinging forward over the main compartment, which will swallow the large cushions. Ahead of this, under the bow step, is an integral chain locker. Lifting the forward end of the console, complete with its jump seat, provides access to an internal cuddy big enough to take a sea toilet or Porta Potti-type

chemical head, or it can just be used as an extra stowage facility – with a few hooks about the place it would make a good place for hanging waterproofs.

The helm seat is formed out of a locker box, with an adjustable backrest that lifts and hinges to form either a bench seat or a leaning post-type seat with the curved backrest folded down. The entire seat base can then hinge forwards to access stowage or an optional galley or wet bar facility. On a dayboat like this, the wet bar and fridge are going to be favourite!

The lightweight, high-volume hull provides substantial freeboard all round, both inboard and outboard. The gunwale height makes her a safe, family boat with the security that comes from being well protected by the generous cockpit sides. The height above the waterline gives her great wave-punching



With the backrest folded down the helm seat becomes more of a leaning pad.



Helm seat hinges open to provide an optional galley or wet bar facility.



The Selva Elegance has a monstrous forward locker space.

prowess, while those on board stay dry. Access to and from the water for swimming is a little inconvenient as the integrated ladder stowed under the transom step to starboard is a bit high off the water. To maintain the symmetry there is a wet locker on the opposite quarter.

One of the disadvantages of a fully enclosed cockpit like this is when it rains. The Elegance has this situation covered with a completely self-draining cockpit, through scuppers each side aft – you just have to ensure they don't get clogged with fallen leaves or other detritus. The automatic bilge pump adds another dimension to the peace

... the ride was soft and controlled, with the spray flung well clear, keeping the aft cushions dry.

of mind of ownership, ensuring the bilges are kept dry, something that was proved during our trip with some hefty downpours!

With the arrival of sporadic storms and high winds came the chance to try the boat in some less-than-calm conditions. It is amazing how rough a lake can get when the wind has the full length of it to drive the waves. We were based at the northern end of the lake where there is a small headland



Console access provides extra options.

i ONBOARD THE SELVA ELEGANCE 6.7M



The simple sports console puts the helm almost on the centreline.



Helm seat with the backrest in the up position.



With the backrest raised the helm has a bench seat.

The height above the waterline gives her great wave-punching prowess, while those on board stay dry.



It was really easy to drive through the sea – the hull bridged the crests and it was only occasionally that she took to the air off the bigger swells.

that protects the marina from the full length of fetch. Tucked in behind this the water was pretty calm, but as soon as we got out of the lee, the swells were a metre high and there were breakers forming under the stronger gusts. For a while it became really interesting; then, as the storm passed overhead, the wind decreased and things settled again. I was fortunate to take advantage of a spell when the water was 'animated', shall we say, and that is when we got the drama into the shots. Of course, you still need a boat capable of taking on the conditions at full chat to create the pictures, and the Elegance 6.7 certainly proved to be well up to the task.

With the waves on the head the hull cut through cleanly, and although she became airborne fairly easily, the ride was soft and controlled, with the spray flung well clear, keeping the aft cushions dry. It was really easy to drive through the sea – the hull bridged the crests and it was only occasionally that she took



to the air off the bigger swells. To get a realistic top-speed figure we ran her both ways. Heading into the wind gives a bit of extra lift as the air gets under the hull, provided it isn't too lively. Bringing a boat back downwind with the waves astern will often find it out, but the Elegance kept her head up and there was no tendency to try to bury her bow. Consequently we could run at full chat and achieved an average sustained top speed of 39.7 knots with a brand-new engine, so I would expect that to easily go over the 40-knot mark after a few hours of breaking the outboard in.

Not only did the boat go well in straight lines, with no slapping or banging until the waves were put at 45 degrees to the bow, but when the face of the flare was square to the water, just a slight alteration of heading was all it took to negate the situation and resume

the status quo. Turning across the waves didn't show any great tendency to slam, unless the ride of the hull coincided with the rearing of a wave, and that can be avoided by the helmsman watching the water and steering to avoid the situation, as you should anyway.

If you are searching for a good-looking boat that has a fine offshore hull and interior practicality, then the Elegance 6.7 is one that you should definitely get a sea trial in. **PBR**

PERFORMANCE

RPM	Speed (kts)
600	3.2
1000	4.8
2000	7.4
3000	15.9
3500	19.6
4000	24.5
5000	32.4
5900	39.7

LIKES

- Super rough-water ride
- Family-friendly layout

DISLIKES

- Seat cushions could be deeper
- Water access

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Finding the Faroes

Simon Everett goes on a personal pilgrimage to the land where his father was stationed during the war.

I GUIDED THE bike down a tiny little track, with its loose gravel surface and hairpin bends that led towards the sea. Rounding a rock, where the road flattened out, a group of wooden buildings appeared, flanked by even older stone-built ones with turf roofs. This was the national museum. I had an appointment to see the curator, one

Erland Joensen. I climbed the wooden steps to the entrance, whereupon he greeted me with a warm smile and an outstretched hand before showing me into his office. I had brought with me a large brown cardboard-backed envelope – I hoped the contents would be of interest to the museum. You see, 70 years earlier, my father had been



stationed here during his tour of duties in command of North Atlantic convoy escorts and I had made the trip both to donate his wartime pictures to the museum and to see for myself the magnificent islands that he spoke so fondly of and where, had it not been for the bravery of the islanders, he would certainly have met a watery grave.

When I put the small black and white prints on his desk, Erland's eyes lit up like beacons. I could tell he was excited as he examined the pictures carefully through a magnifying glass and started telling me about them, sorting them as he recognised some as being local and others from Iceland or possibly northern Norway. Dad had been skipper of an armed trawler, which, like many others, had been requisitioned for the Royal Naval Patrol Service and pressed into action with nothing more than a strengthened

The north coast is spectacular, even on a less than perfect day



foredeck to take a single 4" gun, Lewis guns mounted either side of the bridge, a twin Oerlikon on the poop deck and a rack of depth charges to roll off the stern. At just 422 tons, she had a crew of 19 in total.

At the outbreak of war, Britain had to act swiftly to increase the size of her fleet, and these former civilian vessels were drafted in to perform vital roles, such as escorting merchantmen and harbour patrol services, thereby freeing up the Royal Navy ships to concentrate on keeping our shipping lanes open.

The Royal Naval Patrol Service mainly comprised merchant navy men, like my father, who were seconded to active duty and were thus dubbed 'Churchill's pirates' by the Royal Navy, a name they were rather proud of, and lived up to.

As Erland worked through the pictures he was able to place some of them for me, and we also realised that 'The Plane', which is marked on the tourist map of the islands, was one of a pair of Heinkel 111s that attacked my father's ship in the approaches to Torshavn. She was struck by two



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Day of Life

ON THE WATER
Finding the Faroes

Lt.Cdr.F.A.Everett.
LeicsCity



THEN...



Dad's ship alongside at Runavik in Skalfjord

NOW



Runavik on Skalfjord now.

THEN...



LeicsCity.Vestmanna.

NOW



Vestmanna now.

bombs that crippled her. Fifteen of the crew were lost, but the survivors, Dad among them, were rescued by the Faroese fishermen who braved the hail of strafing machine gun fire to row their small boats out to pick up the men from the water. The Plane, as it is depicted on the tourist map, is one of the Heinkels that was shot down by the Lovat Scouts with a Bren gun. The Heinkel crash-landed in the neighbouring fjord, and the four surviving airmen were taken prisoner. It is one of the enduring stories from the war, but there are so many others...

The Faroes were a lifeline for Britain – literally. With the annexation of Denmark, to whom the Faroes owed their governance, our northern trade

route with America was under serious threat. Thankfully, Churchill had foreseen this and had been courting the local Faroese government in preparation. Within 48 hours of the Germans invading Denmark, we had an advance party of the Pioneer Corps on the main island of Streymoy. We were tolerated as a protection force. In return, Britain desperately needed food supplies. The Faroese lost their main market when the Germans

THE COASTAL
SCENERY IS
MAGNIFICENT AND
CHANGES WITH
THE LIGHT





Top: Approaching the stacks of Risin and Kellingin.
Above: Drama as far as the eye can see.

took over Denmark. So instead they turned to Britain to sell their fish and we were glad of the vital supplies of protein that were landed in Scotland instead of Denmark. It was a symbiotic relationship that sustained both countries throughout the war and continued in friendship afterwards.

So it was against this background of



64 knots on the Scorpion 9m.

GETTING THERE

BY AIR: There is only one airport on the islands, built by the British to provide a supply line for our troops garrisoned there to provide a protection force throughout the war. There are regular flights and the airport is about an hour's drive from the capital, Torshavn. Flights are available direct from Heathrow, Edinburgh and Manchester.

history that I made my motorcycle journey to this small group of islands situated in the Gulf Stream between Scotland and Iceland. I could have taken a plane, but surely a journey is something to be savoured, and there is little poetry in jumping on a jet. Instead, I set off from home to ride to Hirtshals, on the northern coast of Jutland in Denmark, where the Smyril Line ferry serves the Faroes docks. The same ferry also goes to Iceland, but it stops at Torshavn en route each way, giving travellers like myself the chance of a minimum of four days on these unspoiled, rugged islands. I can tell you, it is worth every ounce of effort.

The islands, like Iceland and the north-west coast of Scotland, are the result of volcanic action. The dramatic mountains rising out of the sea and

BY SEA: If you wish to take your own transport, the Smyril Line ferry runs from Hirtshals on the Jutland peninsula in northern Denmark. The MV Norröna sails twice a week and the pleasant crossing takes about 30 hours. The sailing is very much like a mini cruise, with entertainment and restaurants on board.

BY YOUR OWN BOAT: The Faroe Islands lie at Lat 62N Long 7W. From Lochinver it is about 300 miles, so you will need a fuel tank with expedition range.





Above: Haldarsvik on Stremoy Sound

lush green covering of grasses provide a similarity between the Faroes and Hawaii – for me, anyway. For a visiting boater the scenery is amazing, and the waters offer challenging navigation with strong tidal flows and the open North Atlantic to test your seamanship to the utmost. That said, there are also days when the islands are mirrored in a flat calm sea with the clearest blue skies you have ever seen, and



One of the British 5.5 inch guns used to defend Skansin fort in Torshavn. This was the British HQ.



One of the oldest inhabited houses in the islands. The same family have farmed here for 7 generations.

the colours become vivid in the bright northern sunshine.

The history of these islands is fairly recent. Archaeological evidence of habitation goes back as far as 500 AD, with a voyage by St Brendan and Irish settlers. The Viking and Norse settlers took over the islands around 1035, when they were part of the kingdom of Norway, until 1814 when the Treaty of Kiel ceded the islands to Denmark, along with Greenland and Iceland. In 1948, the islands gained self-governing independence, but they are still a protectorate of Denmark.

The name 'Faroe' is derived from the

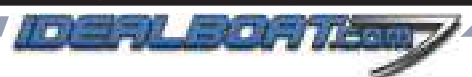


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Turf roof houses are the norm. I actually saw one man just finish mowing his roof with a Flymo!

MANY ORNITHOLOGISTS VISIT THE FAROES TO MARVEL AT THE HUGE COLONIES OF SEABIRDS

old Norse for 'sheep', faer, and oerne, meaning 'islands'. Thus the name translates as 'the islands of the sheep'. This same name in Faroese is Foroyar, meaning much the same, which is apt because sheep are the mainstay of the islands' agriculture and they are grazed extensively on the lush, green hillsides. Faroese lamb is fantastic, and the meat is cured by drying in airy sheds and comes out like an Arctic version of biltong. It is very smelly, but full of flavour and delicious. It is well worth trying and each household or community has its drying shed, or they just hang it under the eaves on the sheltered side of the house.

The people who live here are bred tough – their ancestry sees to that, being a mixture of Irish, Norse and Dane. It is just as well, because they have to be pretty self-reliant. Many of the villages and towns are extremely remote, even by island standards. There are 18 main islands in the group, joined by either ferries, subterranean tunnels or bridges. Getting around often involves a convoluted route by road, whereas it is straightforward by boat, which is a natural means of transport in the islands, even if most boats are powered by small engines, sail or oars.

The traditional handline fishing is carried out close to shore. There is deep water close in, so other than for the large commercial trawlers there is no need to venture far, hence there is no need for hedonistic horsepower – although faster boats are creeping into their society, but mostly for commercial tours, thrill-seeking rides and tourist trips to see the cliffs and wildlife. The Faroes are home to the highest sea cliffs in Europe. The north coast is where they rise vertically out of the sea – in the case of Slaettaratindur to a height of 2,894 feet. The skyscraping cliffs of the southern island of Suderoy are simply majestic, and in the spring the air is full of wheeling and diving birds that use these cliffs to nest.

The climate is remarkably stable,

with the average temperature in January around 4°C, while the summer temperature remains cool at around 12°C, so they don't have the great temperature fluctuations that we are used to. The steady temperature is due to the influence of the surrounding sea, with the remnants of the Gulf Stream keeping the winter sea temperature up to about 6°C. The depth of the surrounding ocean keeps the sea temperature low in summer; again the temperature remains fairly stable, resulting in the regular presence of whales and other cetaceans. Seals are another mammal that can often be seen around the coast, but land mammals are restricted to those introduced by man.

The birdlife is rich and varied, and



The village where the shot down Heinkel which attacked dad's ship crash landed.



The old part of Torshavn



The author biker!



many ornithologists visit the Faroes to marvel at the huge colonies of seabirds and to witness the migrating tundra birds that use the islands as a stopping-off point on their journeys. Another regular attraction for visitors is the aurora borealis – with the absence of light pollution, on a clear night the sky is extraordinarily clear.

Nax Adventures run trips around the islands by RIB, and they have a cruising boat that takes trips to the south to see the hugely impressive sea cliffs and birdlife. I took the RIB around the north and got a taste of the fantastic boating to be had around the archipelago. The route took us to the old Viking town of Klaksvík, which is used as a Danish naval base and is a major deep-sea fishing port. The fjords and sounds between the islands provide deep water and wonderful sightseeing.

Heading north, we approached the magnificent sea cliffs and a cave. The grass clings to the slopes and the islanders bring sheep to these remote grazings in the spring, ferrying them on boats and putting them out onto the rocks. From there the sheep make their way up to the lush, grass-covered slopes to live in quiet solitude and fend for themselves. Water is never a problem, with many natural water

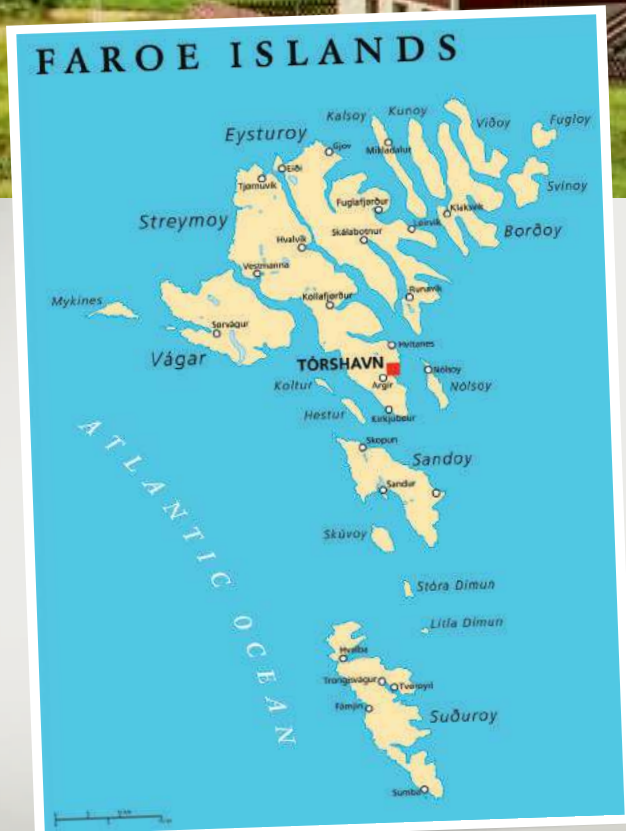


The town of Ness, overlooking Skalafjord, the main British naval base.



One of the British naval guns at Ness, used to defend the naval base in Skalafjord.





THE WATER WAS AS CLEAR AS THE FINEST GIN

FAROE FACTS

Streymoy is the largest and most populated of the islands. The name means 'island of currents'.

sources, and you can see the effects of the water erosion, which has created multifaceted faces on the cliff face. In the autumn, the shepherds return and round the sheep up, fattened and ready for eating.

We put the boat into the cave, which had a ceiling like a cathedral that was home to rock doves and other birds. The water was as clear as the finest gin – we could see every stone and the kelp on the bottom through the slightly blue-tinged liquid, yet the sounder reported 9 metres below the keel. From the cave we headed west, out to sea and across to the north coast of Eysturoy. In the distance, the mountains and cliffs made an incredible sight. We



© Marc-Andre Le Tourneux
istockphoto.com



Traditional
Faroese boat

visited the waterfall at Rivtangi, where a river runs straight over the precipice and into the sea. The strength of the wind blew the tumbling water sideways and fragmented the white water.

Ahead of us lay the key landmarks of Risin and Kellingin, sea stacks that legend tells us are two giants that tried to tow the Faroes back to Iceland, but were caught in the act and turned to stone. The coastal scenery is magnificent and changes with the light – every couple of seconds new facets were revealed as the filtered light enhanced the natural sculptures. Turning into Sundini, the sound that separates the island of Streymoy from Eysturoy, the landscape softened where the surrounding highlands give way to

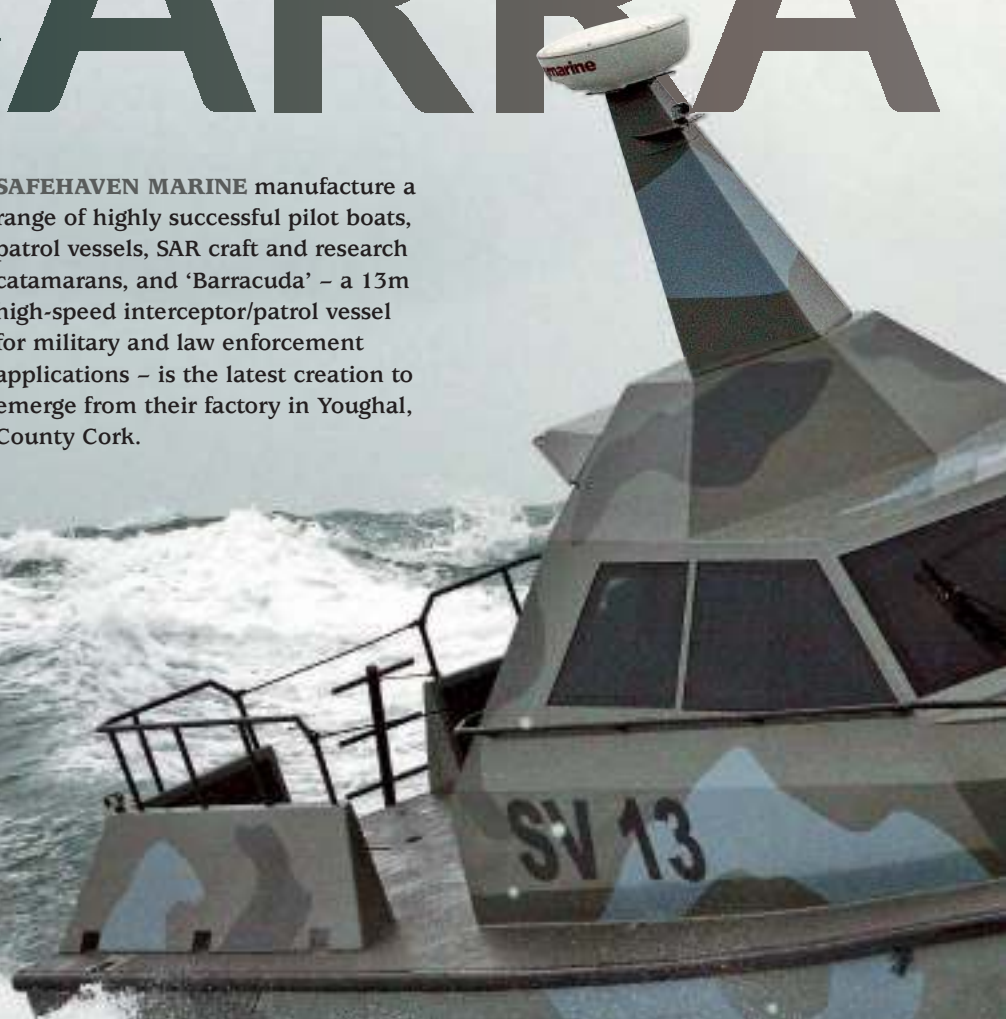
lowland alongside the sheltered sound. There is a passage through, but passing below the 'Bridge over the Atlantic' in a slower boat takes some commitment as the current races through and the channel is very narrow, barely 20 metres wide. It can get nasty here, where the fast current builds over the uneven bottom. Like anywhere in the islands, your seamanship will be tested to the full, something my father was forever drilling into me. It served him well, though, and I hope some of it rubbed off. From the bridge we had an easy run, at 64 knots, back to base at Torshavn. It is a trip I shall never forget and it satisfied a personal yearning I have harboured for many years. [PBR](#)



BARRA

PBR go fishing for *Barracuda* to give the low-down on Safehaven Marine's new high-speed interceptor ...

SAFEHAVEN MARINE manufacture a range of highly successful pilot boats, patrol vessels, SAR craft and research catamarans, and 'Barracuda' – a 13m high-speed interceptor/patrol vessel for military and law enforcement applications – is the latest creation to emerge from their factory in Youghal, County Cork.



CUDA





**Safehaven Marine
have taken an
innovative approach to
weapon deployment on
the Barracuda.**

Established in 1997, Safehaven have grown within their niche markets and produced over 110 commercial vessels exported to over 14 countries worldwide. The Barracuda interceptor has been under development for two years and will be marketed to navies and law enforcement agencies around the world, alongside the company's existing range of vessels. Its flexibility is key to the attraction of the Barracuda, whose typical operational roles will include patrol, surveillance and protection of harbour infrastructure and offshore installations, high-speed pursuit, and apprehension of transgressors engaged in illegal and threatening waterborne activities, as well as covert operations. An array of specialist 'equipment' can be carried aboard to enable even the most dangerous of tasks to be carried out successfully.

The vessel can be deployed by helicopter via its inbuilt lifting points on deck and transported easily by

ship or road. Propulsion is either by conventional stern gear or water jets, and the craft is powered by a pair of 600hp diesel engines, enabling the nimble Barracuda to reach speeds of 40-plus knots when required – clearly an essential attribute in some of the scenarios the Barracuda is likely to be faced with. The larger aft deck allows launch and recovery of unmanned aerial vehicles and the deployment of additional pedestal-mounted equipment, while dive operations are enabled via a transom dive platform.

The innovative design of the vessel utilises various stealth technologies to produce a lower radar cross section (RCS), allowing it to operate with a greatly reduced degree of visibility to an adversary's radar. The superstructure and hull design use flat-plane principles on surfaces in the craft's forward projections to deflect radar beams away, which, together with its specialized construction and outfitting, combine to produce a vessel with a high level of stealth.

Safehaven Marine have taken an innovative approach to satisfying clients needs where covert interception, surveillance patrol and operating in pursuit is a requirement. This relates to specialist 'equipment' which can be cleverly concealed below

decks in the forward section of the superstructure, and raised up to above deck level for deployment through large, watertight, carbon-fibre hatches built into the forward cabin's roof section. In this way, when the vessel is engaged in surveillance or patrol, the equipment is lowered and concealed and the vessel's RCS signature is reduced, but when the vessel is operating in pursuit or apprehend modes, these items are raised for deployment. Another advantage is that the vessel's centre of gravity is kept as low as possible, which is extremely useful when operating in rough conditions.

The Barracuda can be produced at lengths of between 11 and 13 metres due to its variable geometry mould, and is constructed from advanced, lightweight, FRP-cored composites, with extensive use of carbon fibre in its outfitting. The hull's wave-piercing design allows high speeds to be maintained in rough conditions, thereby increasing the crew's endurance and providing exceptionally high levels of seakeeping abilities – very much as one would expect from a builder renowned for the seaworthiness of its pilot and

rescue vessels. The spectacular photos of her during recent trials off Southern Ireland during 'Storm Desmond', which provided 60mph

winds and 6m seas for Safehaven to test her seakeeping in severe weather, also bear testament to this. Indeed, the Barracuda is capable of operating in SAR roles, as the design, depending on specification, can be self-righting and able to operate with a high degree of survivability in extreme conditions.

The Barracuda is capable of carrying from 6 to 16 crew in a climate-controlled environment, all seated on high-tech shock mitigation seating, thereby dramatically reducing crew fatigue and impact injuries from operating at speed in rough conditions. Along with its range of high-tech navigation equipment, sonar and thermal/night vision surveillance cameras fitted to the vessel, and ballistic protection to level BR6 (7.62mm projectile), which can be incorporated to protect the crew compartment, the wide-ranging potential of this craft is plain to see. **PBR**

The innovative design of the vessel utilises various stealth technologies to produce a lower radar cross section ...





Our 25ft RIB, with Hybrid collar system.

Air Today, Gone Tomorrow

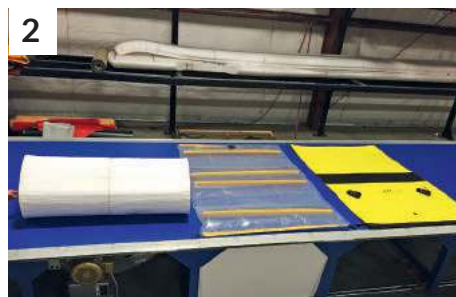
Ever thought of removing the inflatable part from inflatable boats? It might not be as wacky as it sounds ...

RIGID INFLATABLE BOATS (RHIBs or RIBs) are known industry-wide as one of the most stable and safe platforms on the water. They have proven themselves to be a staple boat design for both the military and the United States Coast Guard. The founders of Life Proof Boats are no strangers to foam-collared RIBs, having pioneered the use of polyethylene foam in boat collars in the early 90s. Over the last two decades, the use of foam-collared RIBs has become increasingly popular in commercial and military markets because of the indestructible aspects they offer. However, inflatable-collared boats have a faithful following and offer some advantages with their ability to be soft and flexible. Pursuing new technologies for the inflatable market, the Life Proof team have developed a hybrid system to incorporate the best of both technologies into one package.

Daring to change the way the marine industry looks at rigid inflatable boats, Life Proof Boats are removing the majority of the main ingredient – the air! To replace one of man's most important invisible gaseous substances comprising a mixture of oxygen and nitrogen, Life Proof Boats are using closed-cell polyethylene foam. Impervious to water and low in density (light in weight), the foam

core can either be placed inside a sealed air bladder or wrapped with an independent air bladder, both of which are separate components within the collar itself and accessible via a zipper in the outer protective membrane. The typical preferred ratio of air to foam within the system is 20% to 80%, respectively.

But here's the best part! Unlike other collar systems, what makes these



Components in Hybrid Collar System, This picture shows the three separate components on the table.



This picture is showing the air cell.



The foam core sitting on the air cell before we wrap it with the air cell.



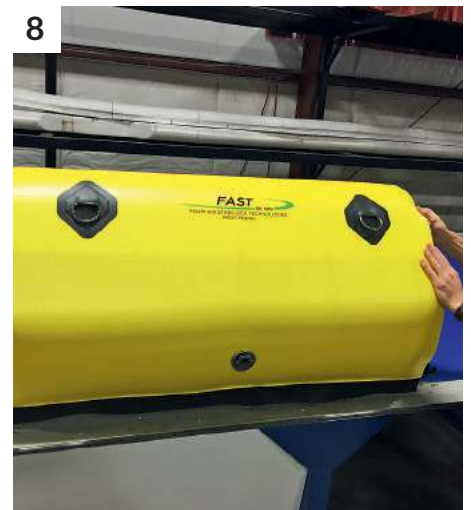
The deflated air cell around the foam core.



Zippering closed the outer collar membrane system.



The system complete and deflated.



We can achieve a flat surface on one side because of the foam core.

This is a new way to look at RIBs - simpler, safer and more user-friendly

systems so unique is the flexibility they provide. Anyone can quickly and easily change, repair or replace the internal air-holding bladders or foam cores. Uniquely the outer membrane doesn't hold any air, unlike conventional inflatable boats. The membrane just protects the internal components. Constructed from either PVC- or polyurethane-coated fabrics, the outer membrane of the collar is manufactured with a zipper running its entire length, allowing anyone to replace the 'guts' inside the collar in mere minutes. You can even change or try different ratios of air to foam (80 %



Lifeproof underway

What makes these systems so unique is the flexibility they provide. Anyone can quickly and easily change, repair or replace the internal air-holding bladders or foam cores.

air with 20% foam, 80% foam and 20% air, 100% air or any combination in between). The user can even have a reserve air bladder stored away in their boat for emergency situations. And because of the foam core, if the collar gets damaged, you won't lose a section of your side sheet like a typical inflatable.

It's important to note that the outer membrane holds no air, so a tiny hole or pinprick in the outer membrane does nothing to deteriorate the system. And if for any reason your air cell within the collar stops holding air, you can simply replace the internal air bladder for mere pennies compared to the cost to have a professional patch, or replacement collar, manufactured, thereby saving money and time.

This is a new way to look at RIBs – simpler, safer and more user-friendly – and if you would like to find out more about this revolutionary system, visit www.lifeproofboats.com and all will be revealed. **PBR**

9



How the other side is round.

10



How the system looks when inflated.

1



A different style of hybrid system where the foam is inside the air cell.



2



End view of foam inside the clear air cell.



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SCORPION STING

It may be rare, but RIB fans will know the Scorpion Sting as one of the most capable boats of all time. But 2015 sees it go out of production. PBR's Greg Goulding pays homage to a great.



When we first tested the Scorpion Sting, we said that it was one of the RIB world's icons and could easily be taken around

Britain if an owner so desired. That really sums up what the Sting is: a boat that comfortably handles a 1,000-mile trip while cruising at 50 knots, but then at the weekend takes the family for a fun-filled jaunt around the Solent.

While there are faster boats and more comfortable boats, there are very few that do both, and that's why the Scorpion Sting has often been considered the most successful boat of all time. It sold in small numbers – as few as 22 in fact – and yet it is still a production boat that has set countless records for speed and endurance while most have barely broken sweat by not venturing out of calm waters.

The Sting is an unusual-looking boat,

with its style splitting many opinions. Love it or hate it, however, there's no arguing that it looks purposeful – the sleek tubes that wrap around a low cabin, and long darkened Perspex windows neatly fitted below a sculptured windscreen. But unlike many 60-knot boats, it has a deep-V hull. Flat hulls are better at acceleration and top speed, but deep hulls are able to tackle the heavy waves better, although they limit speed. So that's where its twin inboard diesels, packing a huge amount of power, come into play.

This combination of a fantastically designed hull, powerful engines and rugged build quality led it to compete in and win various events, from short circuit races to Round Britain and London-to-Monaco endurances. It always wins its class in the Cowes-to-Torquay race, including when Shelley



Jory, Britain's female powerboat champion took renowned sailor Sir Robin Knox-Johnston along as navigator during the 170-mile race in 2009. Despite the force 7, they managed the route in little more than four hours, winning their class and coming fourth overall, despite the other boats having several times the power. Robin decided that in future he would spectate.

How was the Sting born?

The Scorpion Sting was the brainchild of company founder Graham Jelley, but while the idea may have been his, he knew he couldn't do it with his limited funds, so he needed outside investment. Graham knew exactly where to get this investment – in the form of three particular previous customers. Biding his time, he received a call from Patrick Byrne asking for advice on repairs for his outboard. Graham replied to Patrick, saying: 'I bet you wish you had two engines ...' Patrick, the owner of an 8.1m Scorpion, the engine of which had given up 10nm off the Cornish coast,





Two great
Scorpion Stings
- 'Hot Lemon' &
'Seahound'

was sold into the idea of diesel reliability.

Next to fall for the idea were Mike Deacon and Chris Strickland, two separate investors who wanted a racing machine that wouldn't only be able to reach incredible speeds, but could maintain those speeds as it battled through intense waves. They had big plans for their RIBs, so wanted to be involved in the design process. RIBs were still relatively new to the leisure market, having only been discovered as leisure boats four years earlier in 1996. They had taken part in a number of races, but nothing quite like what the future held for the Sting.

Why was it such a success?

During the design process, Chris, Mike and Patrick all had their input, wanting the boat to be designed to fulfil their needs. If it suited them, real boat owners, it would suit potential buyers too. The original layout was an open cockpit with a central companionway between two forward-facing seats, leading to the small cabin forward.

But Mike's racing experience told him that wouldn't work. He needed a side-mounted companionway so that he could have a double helm seat to enable the co-pilot to sit next to the driver. Moving the companionway to the side meant a redesigned interior layout, but that resulted in the tiny toilet compartment being transformed into a heads that was three-quarters of the width, and a small galley to port and berths forward. It was a much-improved design and it stuck.

Mike wasn't finished there, though.



Record breakers - Mike Deacon, and son Dave.

The throttles were moved centrally, as when racing it can be the job of the co-pilot to control the power as the helmsman focuses on steering.

It was the attention to details like this all over the boat that gave the Sting the unique focus that was lacking in many boats on the market. But still the biggest selling point was the beautifully balanced hull. Search for pictures of it jumping out of the water and you'll see that, in almost all of them, it's flat. Very rarely is the bow pointing towards the sky. While this looks less dramatic, it means that it can maintain its speed when it lands, allowing a higher cruising speed. This is vital in endurance races when average speed is everything.

So the Sting was an excellent race boat, and clearly going to bring home trophies for the owners, but Patrick wasn't interested in racing. He wanted to use it to explore new areas of coastline in comfort and not waste time by going slow. Patrick had the throttles on his boat moved back to



The 2009 Cowes-to-Torquay race really allowed Mike to show off his Sting due to the rough 3-metre waves.

starboard and the co-pilot's seat set to port so that the helmsman could move around the boat when berthing. Patrick had turned the racing boat into a serious cruiser, something that wasn't currently available.

Racing

Scorpion owner Patrick Bryne took part in the London-to-Monaco races, and in 2009 set a new record by completing it in 61 hours and 11 minutes. A team followed the boat by land, providing assistance with fuel and overnight stops. In the last race, the navigator called the team and said they would be approaching the fuel pontoon in Ibiza in 15 minutes and to ensure that they could pull straight up, fill and go. Right on time, the boat weaved between the private boats waiting to fuel and landed on the fuel pontoon, where the navigator jumped off, grabbed the hose from the attendant and filled up. As quickly as they had arrived, they were off, heading at 55 knots towards Monaco. Annoyed that the land crew hadn't helped, the navigator called

them on the radio, only to be told that the boat had gone to the wrong marina. The land crew had to apologise to those that must have been stunned by a RIB blasting through the marina, pushing in front of those waiting and leaving without even paying.

But the most successful racers of any Sting are Mike Deacon and his son Dave, the owners of hull No. 1, Hot Lemon. Having set the Round Britain record twice already, in 2005 Mike chopped a couple of inches off the bow so that the Sting was now in the sub-30ft category. With 100 gallons of fuel on board under the decks, and a further 190 gallons in deck tanks, the father and son team smashed the record at 31 hours, 22 minutes and 36 seconds in his (almost) production Sting.

The 2009 Cowes-to-Torquay race really allowed Mike to show off his Sting due to the rough 3-metre waves. Despite these, Hot Lemon cruised past the competitors at 60 knots, leading the race for more than 100 miles. But on the return run, calmer seas saw the 90-knot 1450hp Cinzano cross the line just 11 seconds ahead of Hot Lemon.

The engines

Using the Yanmar 6LP engines in a boat for racing was a bit of a risk. The 315hp engines were from a Toyota Land Cruiser, but they didn't produce enough power until the turbos kicked in at 2000rpm. Compared to other

boats of similar speed, the Sting had poor acceleration – so to improve this, Scorpion modified the hull to be stepped. This improved acceleration dramatically and was popular with pro racer Mike Deacon. But the steps made it twitchy and potentially dangerous for amateur drivers. Only two stepped hulls were ever produced for this reason, for racing and not private use. But despite the lack of acceleration, the engines were the perfect choice, as once the boat was moving, nothing could slow it down and the reliability proved to be the key to success, with many competitors opting for more power but less reliability.

The company today

Company founder Graham Jelley started with GJ Yacht Services by restoring Fairey boats, including the legendary Swordsman. He was no doubt quite a skilled shipwright, and started South Coast RIBs later on, before it became Scorpion RIBs. But as is often the case with small and bespoke boatbuilders, a big name and excellent track record don't always directly translate into profits. It is a labour of love, and the owner has to be passionate about what they do. In 2008, Graham sold the business to the original Sting investor Patrick Byrne. Patrick had recently sold his business and was looking for something to get his hands on, and his passion for boats is clear. With money

to invest, the business has carried on producing a range of boats, while continuing with the tradition of quality over quantity.

Why has production stopped?

Even when first launched, the Sting was expensive, comfortably topping the £100,000 mark. But with so many variables and each boat being built to order, the price increased.

Patrick said: 'The engines fit perfectly, but that means we can't use any other engines. When we started they cost us £30,000 a pair, but now it's more than that for each engine. With so many variants, each boat is custom made, so the time and effort involved mean that the costs don't add up anymore. The entire boat takes us more than 3,500 man-hours to build.

'We haven't just scrapped the old moulds, though, as it is a brilliant hull. We have played around with it, altered the length and added a few little changes here and there, and what we've got is an incredibly balanced boat that has more room for the engines and the ability to fit outboards instead.'

At the end of production the Sting would have set owners back more than £200,000, and while it will most likely be the fastest and most capable boat for the money, it does beg the question: why buy a RIB when you could have a nearly new Princess V42 for the same money? Patrick knows this, and so when planning the new boat, he wanted to ensure that even though the next-generation boat will be just as good, production methods mean that the price is less scary.

The new boat

The Sting has been replaced by the Silurian, a modified version of the Sting's excellent hull. The aft has been extended with Scorpion's own technique of improving balance when the boat is fitted with outboards, something that wasn't easily doable with the Sting. The benefit of twin outboards is being able to offer the customer more options on engines. The new hull is also taller, adding buoyancy and protection for the crew inside, making it a really safe and secure boat. It has a lot to live up to if it is not only going to be as good as the Sting, but better.

i ONBOARD THE STING...



Electrically adjustable endurance seats for comfort and to minimize fatigue.



A full dash designed for endurance and record breaking runs.



Yes another Sting helm designed and customised to clients' needs.



SILURIAN 1080

HMS provides gives a concise overview of the latest offering from renowned British RIB builder, Scorpion RIBs, of Lymington.



THE SILURIAN is the very latest model from the draughtboard of this premier specialist boat builder; a company which has gained an enviable reputation over the years for design quality and seagoing excellence. If I was asked, what to my mind makes a Scorpion RIB special, my reply would be, in my view it's the combined attributes of a first class hull, exceptional ergonomics, tasteful styling and attention to detail. Scorpion is not in the business of 'bling' or loud design statements; they leave that to others. In fact, there's something rather understated about the likes of this Silurian and her fellow stablemates. In a sense, they reflect a certain 'Englishness', which says: "We don't need to shout in order to make ourselves known". This could explain why these boats are proving so popular

with overseas buyers; amongst whom there will be those I am sure who also appreciate the likes of such typically English brands as Aston Martin, Twining Teas and Church's shoes! And at £188k for the privilege of owning a Silurian, potential owners are going to need to have a taste for the expensive! To take the wheel of any Scorpion is a pleasure and the new Silurian, as you might expect, is no exception. From the perspective of the helm, the cohesive design of this key area which takes in the wheel, throttle position, foot plate, electrically adjusted seat unit, as well as the arranging of the display screens and forward vision – all of these features work in harmony with one another to ensure the driving experience is not only enjoyable but also allows one to helm the craft to its maximum performance safely. Sadly, the driving experience of many potentially good

craft with sound, sea going hulls, is so often badly let down due to poor ergonomics, I always think it's a shame that the practical experience of many boat builders and sellers is too limited to their own craft. How good it would be if they could get the chance of standing behind the wheel of a vessel such as this, in order to appreciate first hand, what a really well put together craft feels like. Mind you, to arrive at such quality requires total dedication to detail, a genuine commitment to the pursuit of excellence and ongoing investment, which let's face it, requires financial courage in these testing times as well as a strong belief in the product. Nonetheless, this is why Scorpion holds the reputation it does and why the Silurian is destined to continue this impressive pedigree. There is nothing apparently complex about this boat's layout, but this is, in

i ONBOARD THE SILURIAN 1080



A helm layout that gives evidence of cohesive design.



Helm seating: These wrap around seats provide exceptional security.



Console: Aerodynamic styling with much within.

part at least, testimony to its laudable design. The Silurian's clean lines and uncluttered internal layout also give the craft a purposeful look. In addition, the soundness of the components and the quality of the items, from hatches and catches to stainless steel work, steering systems and the electrical installation, have all been executed to the highest quality. So you can dig around this craft as much as you wish but you'll not find any nasty surprises! The boat really does stand up to detailed scrutiny and this underscores the fact that the Silurian's aesthetic qualities translate in real terms to her actual abilities within the environment for which she is intended to operate.

She is a very secure, stable craft, both at rest and underway. The teak deck surface area is generous in its proportions and no matter where you and your guests may tread, the boat



Foredeck: Up in the bow, there is plenty of space for entertaining.



DECK FINISH
Flexiteek™ decking
in teak with grey
caulking.

REAR SPLASH WELL
Extended swim platform
with custom splash well
for twin outboard engines.
Bespoke stainless steel
grab rails, custom designed
Scorpion ski pole and
mounting point for bathing
ladder. Flexiteek decking to
bathing platform.

COLOURS
Scorpion grey GRP
hull, deck and
mouldings, military
grey tubes with light
grey rubbing strakes,
Honey Diamante
upholstery.

REAR SEATING
Full width wrap around
upholstered rear sculpted
seat incorporating lifting
access to large rear storage
locker. Locker hatch lifted
with one push button
control piston rams.

will not rock and tip beneath your feet. Likewise, underway, the boat remains highly stable, so couple this to the excellent design of both the crew and passenger seating and you'll find that the Silurian is a high-performance RIB which offers both comfort and a high level of onboard security. As a result, no one is left in a position where they find themselves having to fight to stay with the boat at speed.

This new model from Scorpion is a joy to drive. Not only responsive 'out of the hole' thanks to her perfectly matched, twin Yamaha 300hp outboard



Serious stainless steel work throughout including the forepeak Samson post.

SPECIFICATIONS

LOA: 10.49m
Beam overall: 3.25m
Beam - tubes deflated: 2.95m
Draft: 0.42m
Dry weight with engines: 3000kg
Engines: Twin Yamaha V6 300hp (255kgs each)
Max payload: 2490kg
CE Cat: B

PRICE

Full retain price: (excl VAT) £188,000
Ex demo discount: £20,000
Offer price: (excl VAT) £168,000

rig, but her speed will continue to climb to an exhilarating 55 knots at 'full chat'. Alternatively, she'll cruise very comfortably indeed between 30 to 35 knots. Rated CAT B, she is also a craft, like her predecessors, that's designed to endure when the going gets rough. Though the sea conditions were only slight on our day of test, I can testify she gives every indication of being a very surefooted, well balanced and

capable rough water craft too. In other words, she has the ability and waterline length to more than take care of her occupants if called upon to do so. Well, that's about it in terms of this mini overview of the Silurian 1080. She is most certainly a very fine replacement to the 'Sting' and represents yet another advancement in the continuing fortunes of Scorpion as a British boat builder of great renown.

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If you are one of that rare breed for whom only the best is good enough you'll appreciate why Scorpions make the perfect luxury performance RIB, chase boat or superyacht tender.

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W O R L D C L A S S B R I T I S H B U I L T P E R F O R M A N C E R I B S

PATRICK BYRNE SPEAKS

An exclusive interview with Patrick Byrne, MD of Scorpion RIBs, on what it's like to be at the 'sharp end' of one of the most respected RIB brands in the world ...



How many years now have you been the proud owner of Scorpion RIBs?

Since April 2008.

Buying the company from its founder, Graham Jelley, represented a big change in your professional career. Are you glad you made the bold decision over such a career change?

We live in a very different world from my parents. We live longer and demand more, especially the over 50s. I want the adventure of life to continue, a challenge that would push me to the unexpected, and entering into another business field is an exciting way of achieving this. I have made a whole new set of connections, I have made some really great new friends, and I have been to places I would never have considered going to and have travelled with a purpose, not as a tourist. Scorpion is taking me all over the world. It has challenged me at many levels. We are making something of quality and we are exporting British-manufactured products around the world. Doing something for real is a lot better than talking about how you used to do something.

Has your vision for the company and its product changed or developed significantly since first taking up the reins?

No, not really; it just hasn't been the road I expected.

What have been some of the biggest challenges you've faced running Scorpion and developing the brand?

The market changed the moment I

took over. Not having years of previous experience of the marine market made it difficult to identify the wheat from the chaff, and building a brand takes 10 times longer than anyone thinks. So the challenge has been financing, developing the right products and trying to see the way through a market that does not appear to have any pattern.

'If you don't buy a Scorpion you're mad'

What successes along the way are you most proud of?

Graham Jelley did a great job and I have managed to improve the product without losing perspective of the foundation he laid. What I want is safety with comfortable speed and sustainability. What I am proud of is some of the unsolicited comments we have got on the new models we have developed. The Finnish journalists who tested the Strike hull said: 'We doubt we will ever drive a better boat'; a very well-respected superyacht captain at the Monaco Boat Show told a prospective client: 'If you don't buy a Scorpion you're mad'; and a very experienced boat person following a particularly rough sea trial said: 'I did not know a boat could do that.'



Off The Needles on the day of test.

What I want is safety with comfortable speed and sustainability.

SCORPION ESSENTIAL FACTS

Company first founded: 1996
Number of current employees: 20
Longest-serving employee: 20 years
Chief naval architects and designers used: Lorne Campbell
Number of models in the current range: 5
Latest annual turnover figure registered with Companies House: £2m
Approximate number of subcontractors employed by Scorpion: None ... but we do outsource stainless steel work, upholstery and wrapping.

In the minds of the boating public, what would you say people associate most strongly with the name 'Scorpion'?

I want it to be quality and safety, but I think speed is probably in there somewhere first.

The new Silurian is another significant development for the company and the brand. What was the motivation behind its development and what opportunities are you hoping to exploit with this new design?

The new Silurian takes Scorpion into a different and much wider market; it has wider appeal and it sets even higher standards in terms of ride comfort and safety. It is the result of things we have learnt from other models, just taken to another level. It is part of Scorpion's evolution ...

What markets, both existing and emerging, do you consider to be important to Scorpion?

At the moment we have lost a lot of our traditional market, partly through costs (quality costs money to produce) and partly because our boats are on the larger size – in the early days 6.5m to 8m were our mainstay, but we tend to now sell 9m to 10m boats. However, this does mean used Scorpions are a very good-value purchase. We have made progress in the superyacht market, where our target is chase boats, selling Scorpion's ability for long-distance running and suitability for towing. We

are also selling into hotter climates: the Mediterranean and Caribbean.

Where do you see Scorpion in 5 years' time?

UK-based worldwide sales, with most boats being between 10m and 14m.

How important do you consider it to be that Scorpion are a British company, and does it give your brand additional respect in the global market?

There is respect for British build quality; it does help, but only if you deserve the title of a quality make product. It is not easy to quantify.

When one day you hand over the helm of the company to your successor, what legacy would you like to have left behind?

The best RIB in the world ... **PBR**



RCD or OCD?

That is the Question ... **PART 1**

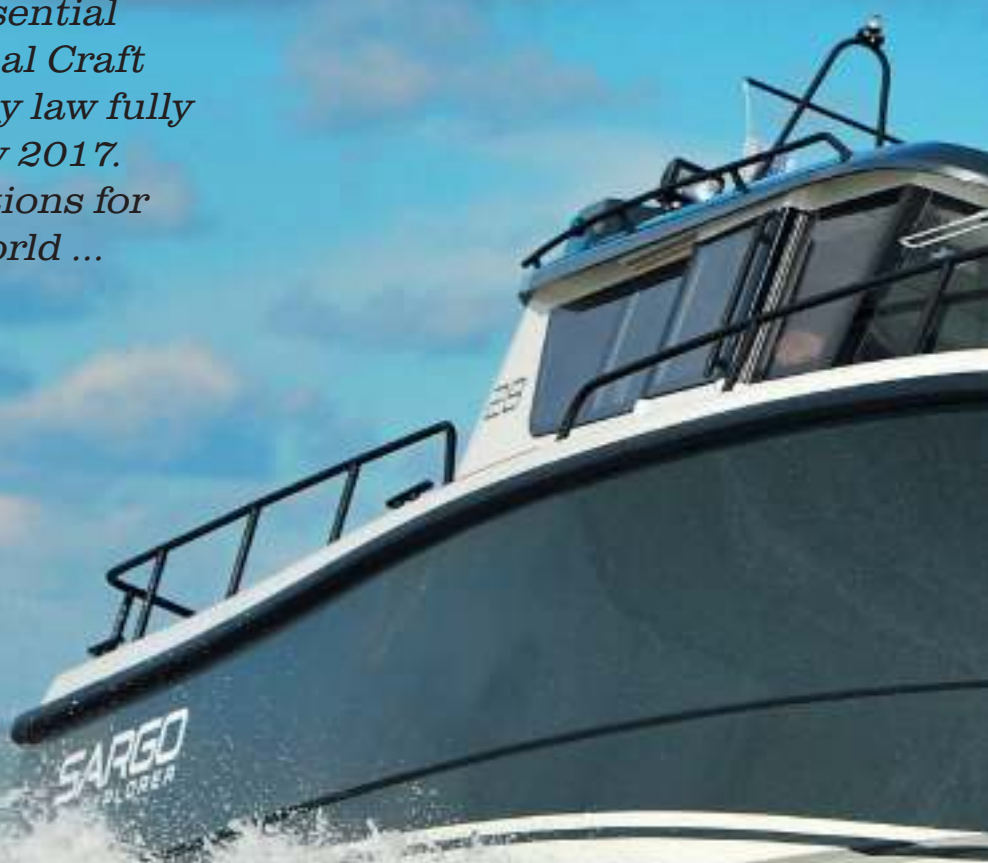
Part 1 The essential overview of the Recreational Craft Directive (RCD) 2 - Ross Wombwell BMF

Part 2 The case for the CE Mark - Alasdair Reay, CEO, HPI Verification Services

Part 3 The case against Categorisation - Hugo Montgomery-Swan

In the first of this special three-part PBR feature, Ross Wombwell of the BMF provides an essential overview of the Recreational Craft Directive (RCD) 2, which by law fully comes into play in January 2017. The directive has ramifications for everyone in the boating world ...

IN JANUARY 2017, Directive 2013/54/EU – or to give it its more commonly known name, the Recreational Craft Directive (RCD) 2 – will become the new law in Europe for the design and construction of all new recreational craft used or sold in the UK and EU. All sailing yachts, motor yachts, powerboats and RIBs will have to be built to this regulation. So how are things changing? What are the differences that will be seen in the new boats on the water, at the marina and at the boat shows?



Eds Note The photographs of craft, brands and makes throughout this article are used simply to illustrate the article with pictures of the type of recreational craft which come under the scope of the RCD. In no way is any specific comment or discussion related directly or specifically to any craft or brand pictured, and nothing is being inferred by any specific location or positioning of any picture in this article.



Under the regulations, a recreation craft is:

- a boat of any type regardless of its means of propulsion
- a boat between 2.5m and 24m long
- intend for sports or leisure purposes



The simple answer is that unless you look really, really closely, you won't see any technical differences led by the new directive in the vessels that will be on show. And even then, without reading through the paperwork or lifting a hatch and searching the bilge, it's unlikely that any difference will be noticeable.

The new law, as was the last, will be the UK implementation of a 'New Approach' European directive. The 'New Approach' allows for the evolution of boat design, so that every time technology makes a leap forward, regulations move naturally with it. No more need to rewrite regulations as technology progresses. The existing law was agreed in 1993 and implemented in 1996. Since then it has been amended once, in 2003, to cover increasing environmental concerns.

But throughout this time, design and construction standards have been evolving annually, while the law has stayed the same. The 'New Approach' means that what is legally required can be written as a general description of the level of safety to be achieved (known as the 'Essential Requirements') without defining the way of achieving it. Believe me when I say this, it is a much better way of doing things.

Each of the 'Essential Requirements' (ERs) listed in the directive can be met in a number of ways. Most boatbuilders use International Standards Organisation (ISO) standards, which are constantly being assessed and amended. Currently there are up to 65 ISO standards that can be used in the design and construction of a recreational craft, but each standard

is reviewed and if necessary revised at five-year intervals. Some standards are changed even sooner if there is a sudden advance in technology.

Here's an example. The ISO standard for the stability and buoyancy of a boat is ISO 12217. The first version of this standard was released in 2002 and then it was amended in 2009. An updated version was released in 2013 and again last week in 2015. This standard has been changed and improved four times, offering better levels of safety, and all within the time frame of the regulation. You can begin to see exactly what boatbuilders have to keep up with.

So let's look at some of the detail of the new RCD and find out the changes that have come about that have meant that a new version of the law has had to be written. There have been a number of small changes, hard to spot by the untrained eye, but that will significantly improve both the safety of your boat and its impact on the environment.



Change 1: Means of reboarding after someone falls overboard

The original law required a means of reboarding to be provided on all vessels. The new law goes a step further and now means that a person who falls overboard must be able to reboard from the water unaided. Boatbuilders now

Every Sargo boat is built very solidly, without compromises. That's why her ride is anything but rough even in rough seas.

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EU engines now comply with US emission limits, set in 2010.

need to demonstrate that someone in the water will be able to get back onto the vessel without any assistance. Some boats are already able to meet this requirement; however, for others this will prove much more difficult to achieve, with a number of possible solutions being discussed, including hidden steps in the hull, automated recovery systems and even manually deployable emergency ladder systems.



Change 2: Clear visibility from the main steering position

Previously only applicable to motor boats, this meant that the main steering position had to give the operator, under normal conditions of use, good all-round visibility. The new directive goes beyond requiring this of just motor boats, and it now applies to all other boats.



Change 3: What happens when a multihull vessel capsizes?

All habitable multihull recreational craft that could be susceptible to capsizing have to have a viable means of escape in case this occurs. Effectively this means all multihull craft need to have their stability tested and, where there's a danger, provide an acceptable means of escape near the waterline. Those multihull craft that can prove limited susceptibility to capsizing won't need to provide that type of means of escape. It could be argued that this is a reduction in the level of safety, but this change

was born out of a rigorous assessment of accident statistics, which showed that the risk of capsizing of some of these types of craft is low.



Change 4: All tiller-steered outboard engines must be fitted with a 'kill cord'

These engines must be equipped with an emergency stopping device that can be linked to the helmsman.



Change 5: Only petrol fuel tank spaces need to be ventilated

Previously all fuel tank spaces had to be ventilated.



Change 6: Electrical systems – addressing electric propulsion

As more and more boaters turn to electrical and hybrid propulsion, the law has changed to address a gap in the regulation. The changes bring about an assurance of the safe installation of this type of system.



Change 7: Protecting waterways from waste

As already mentioned, many changes have come about with safety in mind, but there are also some aimed at making boats friendlier to the environment. This change means that any toilet fitted in a recreational craft has to be connected solely to a holding tank or water treatment system and is no longer able to be plumbed straight to the sea.



Change 8: Cleaner engines

Engines have had to comply with emission limits since 2004 and this change brings EU engine emission limits in line with US emission limits (set in 2010). This means engines can now be sold in both markets and you get a cheaper, cleaner engine.

Still with us? While these changes may be noticeable to the eagle-eyed among you, there are a number of changes to how the law is defined and implemented that will not be.



RCD aims to bring greater safety to families and consumers in general.



Design categories

The RCD uses design categories to define the different degrees of hazard to which boats may be subjected. These categories are used during the design of the boat to specify certain technical requirements such as hull strength, stability and buoyancy. Within the new law, the old descriptions within the categories have been removed.

The new categorisation maintains the existing four design categories (A, B, C, D), but no longer describes the area and type of navigation. The reasoning behind this is that the conditions that need to be taken into account by the boater are the wind force and wave height, regardless of the geographical location of the vessel. And by removing the category names it should now be clearer to a boater exactly what's what. You can see what we mean from the two figures below:

2003/44/EC – RCD 1

DESIGN CATEGORY	WIND FORCE (BEAUFORT SCALE)	SIGNIFICANT WAVE HEIGHT (H 1/3, METRES)
A - "Ocean"	Exceeding 8	Exceeding 4
B - "Offshore"	Up to, and including, 8	Up to, and including, 4
C - "Inshore"	Up to, and including, 6	Up to, and including, 2
D - "Sheltered Waters"	Up to, and including, 4	Up to, and including, 0,3'

2013/53/EU – RCD 2

DESIGN CATEGORY	WIND FORCE (BEAUFORT SCALE)	SIGNIFICANT WAVE HEIGHT (H 1/3, METRES)
A	Exceeding 8	Exceeding 4
B	Up to, and including, 8	Up to, and including, 4
C	Up to, and including, 6	Up to, and including, 2
D	Up to, and including, 4	Up to, and including, 0,3'

put into service, therefore all privately imported vessels must be CE marked when first used within the UK. The law also sets out the obligations of a private importer for those who still wish to buy a vessel from outside the EU: If the manufacturer does not fulfil the responsibilities for the conformity of the product with this directive, a private importer, before putting the product into service, shall ensure that it has been designed and manufactured in accordance with the requirements set out in Article 4(1) and Annex I and carry out or have carried out the obligations of the manufacturer set out in Article 7(2), (3), (7) and (9).



Defined private Importer

British Marine's technical team often take calls from trade members and members of the public who are looking at buying a second-hand boat and notice that there is no CE marking. The majority of the boats in question will have come into the UK and been used after the RCD came into force in 1996. These vessels are known as 'grey imports' and the person responsible for the import has more often than not

faded into the past. The law has changed to clarify the definition and position of a private importer and the requirements legally placed upon them.

A private importer of a recreational craft is now defined as: Any natural or legal person established within the Union who imports in the course of a non-commercial activity a product from a third country into the Union with the intention of putting it into service for his own use.

The RCD applies to recreational vessels when first placed on the market or



The RCD rates each model for the vessel's maximum payload.



If the required technical documentation is not available from the manufacturer, the private importer shall have it drawn up using appropriate expertise.

The private importer shall ensure that the name and address of the Notified Body which has carried out the conformity assessment of the product is marked on the product.

It is important for people to be aware of their new responsibilities so they know exactly what they need to do when bringing a non-CE marked vessel into the UK from a country that is outside the EU. Before the vessels are first used in the EU they must be CE marked, and if the manufacturer has not done this then it will be the responsibility



ABOUT BRITISH MARINE

British Marine (the trading name of British Marine Federation Limited) is a membership organisation leading the UK leisure, superyacht and small commercial marine industry. It has over 1,600 members drawn from both seagoing and inland sectors and represents an industry employing more than 31,500 people in the UK. For more information about the work of British Marine and how to join, please visit the website

www.britishmarine.co.uk

ISO (INDEPENDENT, NON-GOVERNMENTAL INTERNATIONAL ORGANIZATION)

ISO is an independent, non-governmental international organization with a membership of 162 national standards bodies. Through its members, it brings together experts to share knowledge and develop voluntary, consensus-based, market-relevant international standards that support innovation and provide solutions to global challenges.

The ISO story began in 1946 when delegates from 25 countries met at the Institute of Civil Engineers in London and decided to create a new international organization 'to facilitate the international coordination and unification of industrial standards'. In February 1947, the new organization, ISO, officially began operations.

ISO website text

The UK member of ISO is the British Standards Institute (BSI). Sir John Wolfe Barry – the man who designed London's Tower Bridge – instigated the Council of the Institution of Civil Engineers to form a committee to consider standardizing iron and steel sections on 22 January 1901.

Subsequently, on 26 April 1901, the first meeting of the Engineering Standards Committee took place. As a result, the variety of sizes of structural steel sections was reduced from 175 to 113 and standardization was underway.

1946 saw the first ever Commonwealth Standards Conference, held in London and organized by BSI, which led to the establishment of the International Organization for Standardization (ISO).

Representations are sought from many spheres including: consumer organizations; professional institutions; certification, testing and inspection bodies; educational establishments; research organizations; UK notified bodies; enforcement bodies and government departments.

However there are also opportunities to become a consumer representative, to speak up for the people who will end up using those products, services and processes.

BSI website text

of the importer to ensure the vessel meets the RCD and has the relevant technical documentation to prove this. More often than not, this will require the use of a 'Notified Body' as a third party to verify this, certified by the UK government as being able to carry out this type of inspection.

A lot will be written over the coming months regarding the new RCD and its effects on boatbuilders and all the other businesses involved in putting a boat in the water. January 2016 is only the start of the one-year period given to manufacturers to move from using one regulation to the next. And as highlighted already, a lot can happen in a year!

One of the changes to the RCD is related to the requirement for clear visibility from the main steering position....”Previously it was only applicable to motor boats, this meant that the main steering position had to give the operator, under normal conditions of use, good all-round visibility. The new directive goes beyond requiring this of just motor boats, and it now applies to all other boats.”



The case for the defence of the CE mark

By Alasdair Reay, CEO, HPI Verification Services Ltd.



Alasdair Reay inspects a jet tender for RCD compliance at the Williams factory

IS THE EU'S Recreational Craft Directive perfect? No, but it is worthwhile and I can prove it. I will use US statistics as they are the most detailed available and they are valid as ABYC and European standards have been growing ever closer in content. They show that in 1997 (the year before the RCD became mandatory), there were 8,047 boating accidents leading to 4,555 injuries and 821 deaths. In 2013, there were 4,062 accidents, 2,620 injuries and 560 deaths. So the number of accidents and injuries has halved. The deaths are down by roughly 30%. In 2014, there were 610 deaths, a few more than 2013, but look below the headline figure and the detail is interesting. Not a single boat sank. There was just one electrocution. More than a quarter of the accidents were related to collisions and groundings. In fact, take away the accidents resulting from operator error and one can see that while the boat is sometimes to blame, this is far less frequently the case than it used to be.

So the EU regulators have unquestionably achieved their aim of making boats safer, on a statistical basis, but there are still boats on the European market of questionable seaworthiness and this is why I say the RCD is not perfect. But rather than deride the regulators for this imperfection, let us congratulate them on improving the boater's safety and then look to understand the imperfections so that we don't buy ourselves that questionable boat.

One of the charming features of sailing past a group of moored boats is observing the vast array of boat types and shapes. One might have thought that after several millennia of playing around with boats, mankind would have developed an ideal and that all boats would be similar. This is clearly not the case, and so the regulators have a real challenge. You try inventing a set of equations for stability, structural strength or the size of cockpit drains that will fit every boat type on the

Enforcement of the RCD in the UK is perhaps the weakest in Europe.

water. It is fantastically difficult, but I think we would all start at the same place: by dividing boats into categories. The EU regulators did exactly that when they introduced 'design categories' A, B, C and D. Sadly they have been misunderstood by most people from the moment they were introduced. Even the Italian government misunderstood and added limits to distances of operation from shore to the design categories in their national implementation of the RCD. The EU Commission quickly forced the Italians to revise their legislation and explained that the RCD and its categories have nothing to do with operation. They simply define wind force and wave heights that designers and manufacturers should ensure their boats can survive. Be very

careful here. Consider the meaning of this. The boat just has to survive these conditions. This does not require boats to be capable of travelling at speed in the limiting conditions. This immediately shows that seakeeping is outside the scope of the RCD. That is considered to be an operational issue and the RCD is focused on the boat's design and not operations. So what does the category mean to a person buying a boat? To understand this, one has to scratch a little below the surface, and before we do that, we must submit to a brief lesson in the way the RCD is structured. Don't worry, this will take just a moment.

The RCD sets very non-prescriptive 'essential requirements' that have bland statements along the lines that the boat should be 'strong enough in all respects' and that they 'shall be designed so as to minimise the risk of sinking'. I suspect every person who goes boating would nod in agreement with all of these fundamental intentions. In which case, we are all in agreement that the RCD itself, i.e. the law, is welcome and that the EU regulators have done a good job. But how does one measure strength to see whether a boat is 'strong

enough in all respects'? One uses technical standards. So while there is one RCD, there are many standards written to support the RCD. This means committees of (hopefully) experts from all over the world (not just Europe) sit down to set the equations for a specific aspect of a boat. For example, EN ISO 12215 has 10 parts covering structure; there are standards for all the systems (except fresh water) such as EN ISO 10088, which covers fuel systems. There is a separate standard for fuel tanks, which shows the level of detail that the standards break down to. A typical 30ft cabin cruiser would be required to comply with around 20 to 30 different standards and incorporate components, e.g. steering gear, which are themselves CE marked and compliant with additional standards.

So the big question is not about the RCD itself, but what do the international standards require of a category B boat that it does not for a category C boat? If one looks through all the standards, there are only six that set different requirements for the design categories. If you expected more to be sensitive to the categories, consider that your boat's electrical system should be



equally designed not to electrocute you whether you are on a lake or in the mid-Atlantic. The six that do set different requirements for design categories are:

- EN ISO 11812 - cockpit watertightness and draining
- EN ISO 12215 - structure
- EN ISO 12216 - doors, windows, portlights and hatches
- EN ISO 12217 - stability and flotation
- EN ISO 15083 - bilge pumps
- EN ISO 15085 - prevention of man overboard

So, without going into great detail, one can see that a category B boat would be expected to have greater bilge-pumping capacity and faster cockpit drains, as well as stronger and tighter windows, than a category C boat. It would also be expected to have higher and more copious guard rails and/or handholds



Alasdair Reay awards an RCD certificate to the RIB 4 Macmillan charity boat auctioned at Southampton Boatshow 2014

and a stronger structure. I think we would all agree with that. But what about stability and flotation? This is where it gets difficult because it is not as easy as saying a category B boat must be 'more stable' than a category C boat. Why?

Primarily, the vast range of boat shapes that we see on the water is a result of the fact that we all draw lines of compromise in different places – and we do it happily. For example, divers want to carry dive gear on deck and are willing to move the steering console and seating to allow for this. The fact that this shifts the centre of gravity of the boat, opens up a big space for deck water to slosh around and thus detracts from its seakeeping is an acceptable compromise for the divers. Neither the RCD nor the standards attempt to stop divers from doing this. If it takes them longer to crawl their way home than with a similar boat with better balance then that is for them to deal with. But the RCD and the standards do expect the boat to stay stable and not sink in the prescribed waves and wind. In what way? Well, here are three examples:

A category B boat would be expected to have a higher sole for the cockpit so that water would run off more quickly.

Hull strength and quality of components is included in the RCD.



Does this make it a better boat than the category C version? Not if your primary concern is volume inside the boat. It also raises the centre of gravity of the people and fittings on the deck, which can affect the handling.

A category B boat would be expected to have higher sills on openings. Does this make it better? Not if you want to slide things in and out of lockers and don't want to be stubbing your toes. A category B boat would be expected to have more deck coverage than category C. Is this better? Not if you want an open, airy boat.

The best way for me to illustrate that a category B boat is just 'different', not 'better', than a category C boat is to use a real example. Some while ago, my company certified the San Juan 48 (see <http://www.sanjuanyachts.com/yachts/sj48fb/>). I like to call this boat from Washington State the 'Continental Bentley' of the Sea. I say that because it is a fantastically comfortable, quiet and imperious boat, yet has impressive

power and a turn of speed that is delivered with no fuss. The key characteristic of this boat's design is the wide and open cockpit replete with opulent loungers all crafted out of different grains of wood. The glass bulkhead at the back of the wheelhouse folds back and the wheelhouse extends the area around which people can lazily drift. But one European buyer insisted on his boat being category B rather than C. The result was sills and seals being added in the cockpit and the fold-away bulkhead being changed for a more robust and watertight arrangement. No longer was the wheelhouse a part of the cockpit. The 'open' volume was greatly



reduced and the sills stopped people from drifting so lazily around. In my opinion, the whole selling point of the boat had been destroyed by the change to category B. In this case, the category C boat was undoubtedly better.

So the categories are not about seakeeping. In any case, how would you measure seakeeping? If it is difficult to define, it is surely difficult to calculate. If naval architects find it difficult, how could it be policed? Consider the standard EN ISO 11592. This standard is used to find the maximum propulsive power that may be fitted to a high-speed recreational craft. It requires the boat to demonstrate a 90-degree turn within a prescribed distance – the faster the boat, the larger its turning circle may be. This sounds like a simple test, but different helmsmen will produce very different results. Even the same helmsman will produce very different



A lack of enforcement reduces the degree of compulsion that a manufacturer feels when carrying out his duty of care.

results on different days. If we widened the scope to cover whatever else we consider seakeeping might involve, it would be a very unreliable yardstick. It is quite certain that it would outlaw some boats whose curious shape provides for a function that owners bought it for, despite its seakeeping challenges.

So here is the common misconception. Don't buy a category B boat and expect it to be a superior seakeeper than the category C option. It will simply have more drains, seals and sills. Even the category C boat has to prove good stability to survive a 2m significant wave. (How many of us go out in more than that?) The EU never intended the design categories to imply better handling and seakeeping because they didn't want to outlaw boats that people wish to buy.

ABOUT HPI VERIFICATION SERVICES LTD

HPIVS is a Notified Body. This means the company is given a licence from the EU Commission to certify products as being compliant with EU regulations. HPIVS is appointed for four EU 'directives': Recreational Craft (RCD), Machinery, Pressure Equipment and Simple Pressure Vessels. Independent research conducted in 2013 showed that HPIVS was third in the league table for the number of certificates issued to boats under the RCD. Since then, HPIVS has found itself the only RCD Notified Body in the UK and has greatly increased its market share, with brands such as Sunseeker, Princess, Discovery, Raymarine, Lewmar and many more becoming clients in the last two years. HPIVS trades worldwide and includes the likes of Mastercraft, Nordhavn, Riviera and AB

Inflatables among its many non-UK clients. HPIVS was effectively founded in 1996 as the Certification Services Department of the UK Atomic Energy Authority. Notified Body status was first achieved in 1998 in the newly floated AEA Technology plc, a FTSE 200 company. The Notified Body service has been bought and sold a few times, which has required its name to be changed, but HPIVS is fast approaching its 20-year anniversary. The company's technical staff are all chartered engineers with long experience in their sector. The company operates from an office by the Thames in Wallingford, Oxfordshire. From here, HPIVS works with many inspection and testing partners, including the American Bureau of Shipping, the Korean Testing and Research Centre, CEproof etc. all over the world.



Which brings us to the other unfortunate feature of the RCD: enforcement. In the UK we like to think that we follow the rules and Johnny Foreigner doesn't, but when it comes to the RCD, I'm afraid that isn't so. Enforcement of the RCD in the UK is perhaps the weakest in Europe. Typically, the RCD only comes out into the light when there is an accident or a complaint. In other countries, boats are often stopped at customs and impounded in marinas for having no CE mark. A lack of enforcement reduces the degree of compulsion that a manufacturer feels when carrying out

his duty of care. Yes, there are certifiers performing checks, but not all boats are required to be certified. Boats that are shorter than 12m and in category C do not need a certificate. All boats in category D do not require a certificate. So if a manufacturer does not need a certificate and the enforcement is weak, how closely is he following the applicable standards? Even if the boat is certified, it is a sorry truth that the level of scrutiny applied by the certifiers varies. My own company, HPI Verification Services, is now the only UK-based certifier for the RCD (called



ABOUT ALASDAIR REAY

Alasdair is CEO of HPI Verification Services Ltd, the UK's only RCD Notified Body. After his degree in naval architecture at University College, London, Alasdair joined Lloyd's Register's (LR) graduate training scheme in 1991 and spent six years inspecting and design-reviewing everything from tankers to hovercraft. Recognising Alasdair's interest in sailing (National Public Schools Keelboat Champion in 1987) and his computer programming capability, LR moved Alasdair to their Special Service Craft Department, where he was involved in the launch of their new software for the structural analysis of small craft. Alasdair was then headhunted by the UK Atomic Energy Authority to head up its certification department, which was founded in 1996 in the newly floated company, AEA Technology (AEAT). Alasdair saw AEAT to Notified Body status for a number of directives, including the RCD in 1998, just before this legislation came into force. Alasdair has, therefore, been closely involved with the RCD's development from its very early stages. After leaving AEAT in 2000, Alasdair was a founding member of the world's largest chain of RCD consultants, CEproof. Alasdair sold this business in 2010 and bought the Notified Body HPIVS, which closed a circle since HPIVS is the same certification services department where he worked when it was owned by the Atomic Energy Authority.

a 'Notified Body'). This is despite ours being a proud seafaring nation with many boatbuilders. We are the only one because the accreditation process we have to follow in the UK is intense and expensive. In recent years, the United Kingdom Accreditation Service (UKAS) has brought technical experts to audit our company. These have included Andrew Blyth, the convenor of the stability standard EN ISO 12217, and Paul Handley, the naval architect employed by the EU Commission to rule on whether each of the RCD technical standards provides the tools to measure the requirements laid down in the directive. These are as knowledgeable people as you could find in our specific niche. Certifiers in many other countries are rarely, if ever, inspected by someone with marine credentials and are simply audited on whether they have ticks in boxes. In fact, not all certifiers are formally accredited. As a result, the



A typical selection of leisure craft, including a RIB, PWC, and Catamaran, all of which come under the RCD.

rigour with which certifiers carry out their assessments is varied. RIBs provide the best illustration of this variance.

Category B boats must be certified yet there are Italian RIBs as short as 5m assigned to design category B. To put this in perspective, HPIVS has recently refused category B to 6.5m RIBs of good repute. Would you really want to be out in a 4m wave in a 5m boat? How did this obtain a certificate? Well, the certifiers are not obliged to witness stability testing for boats shorter than 12m. They are allowed to use the manufacturer's submitted reports and data. At HPIVS we insist upon inspecting every boat we certify, but not all certifiers do this. So if a manufacturer submits wrongful data, whether intentionally or innocently, it is difficult for a certifier to detect it without an inspection.

So yes, the RCD is imperfect, but it is always improving and it has already statistically proven to have halved the risks of boating. The EU Commission has recently introduced its 'New Regulatory Framework', which, among other things, requires all certifiers to be

In the UK we like to think that we follow the rules and Johnny Foreigner doesn't, but when it comes to the RCD, I'm afraid that isn't so.

formally accredited and tightens the regulations so that policing authorities will find it easier to prosecute. The UK's Trading Standards have acknowledged that this will lead to more enforcement in the UK, and this will, in turn, drive manufacturers to treat the regulations with increased respect. We at HPIVS and the British Marine Federation are attending committees in an attempt to improve standards in both the technical content and the ease of application. We are also playing a lead role in redrafting the guidelines for the operation of Notified Bodies so that we can improve the consistency among all 30 certifiers. But don't expect the RCD and its categories to tell you which boat will handle best in a rough sea. That is a matter of judgement, so try before you buy.

Source of statistics: 2014 Recreational Boating Statistics produced by USCG and US Department of Homeland Security.



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The case against categorisation

HMS gives his frank views on the implications and practical limitations of the Recreational Craft Directive and its categorisation of craft.

PART 3

Is the categorisation of craft within the context of the RCD a good thing or not?

Are you, as a prospective boat purchaser, helped or hindered by a law that rates a craft suitable for a maximum wave height and wind strength limit, and how do you understand these categories?

As a boatbuilder or designer, are you frustrated by having your vessel officially rated as not being suitable for conditions beyond a specific wave height, say of 2 metres as per Category C?

As a marine insurance broker, what is your stance and that of your company's underwriter when a boat owner makes a claim following an incident where he was found to be using his boat outside of the sea state limit of its RCD categorisation?

Also, how do some manufacturers or dealers use the RCD category in their selling strategy?

These, I feel, are relevant questions of concern to virtually everyone involved in the world of boating – whether their interest be private or professional. In my view, there appears to be a contradictory claim, on the part of the authorities concerned, in claiming that the directive is NOT to class how seaworthy a vessel may be or how well it may perform under certain conditions and payloads, I have to question then why the RCD states that 'Watercraft in each design category must be designed and constructed to withstand the parameters in respect of stability, buoyancy and other relevant essential requirements...and to have **good handling characteristics**'. HPI VS stated that the *'the boat just has to survive these conditions. This does not require boats to be capable of travelling at speed in the limiting conditions*. This immediately shows that seakeeping is outside the scope of the RCD. That is considered to be an operational issue and the RCD is focused on the boat's

... If the US standards are so successful and they do not see the need to categorise, why do we?

design and not operations'. I find this puzzling, as it is my view that 'good handling characteristics' has everything to do with seaworthiness and operations; surely the RCD is requiring the boat to have good handling characteristics whilst experiencing the conditions specified. Additionally, for example, the old RCD category C description stated 'Designed for voyages in coastal waters, large bays, estuaries, lakes and rivers where conditions up to, and including, wind force 6 and significant wave heights up to, and including, 2m may be experienced' - so this implies one would be actively voyaging in the craft, as opposed to the suggestion that





Enforced standards are effective in ensuring the safety of installations & fit out.

one would be surviving in the craft. The wording of the new RCD does not say 'Designed to survive' it simply says 'designed for' and when it mentions 'designed to withstand' it also says 'and to have good handling characteristics' in this very same clause. The former is not with exclusion of the latter. How would anyone assume that as the old RCD clearly was referring to voyages where the stated category conditions could be experienced, that all of a sudden, it simply means 'surviving in the stated category conditions'?

Surely it begs the question: 'Is the rating of craft and placing limits on their use according to predetermined wave heights and wind strengths only causing the RCD to cause confusion amongst the trade and those it is seeking to protect? Because ultimately, the final result of classification does, by its very nature, deem a craft 'fit for purpose' up to and within its given category with said number of individuals/payload, and in so doing, it can't fail to officially deem one craft as being more able to cope with challenging conditions than another, this is naturally understood frequently by trade and consumer alike as being more seaworthy. As Editor of this magazine, I have never heard anyone express anything different to this, so in practice, this is how it is understood. If the RCD is genuinely intending to refer to survival only, then the wording is not clear and further amendment is essential to avoid misapplication.

HPiVS have stated there is clear statistical evidence that since the RCD there have been far fewer electrocutions, asphyxiations, steering failures, structural failures, and that hatches and port-lights are far stronger and more watertight now than they were pre-RCD, and better vision from the helm and far more handholds around the deck. I am in no way decrying the benefit of the RCD in improving standards and the quality of build and therefore reducing accidents and deaths. This can only be a good thing. But should the RCD stop there, where it is clearly making a beneficial difference, as the marked reduction is far greater where incidents relate to the boat itself rather than its operation?

Besides the above, the RCD places much emphasis upon a vessel's stability. The latter will have a huge bearing on what category the boat is finally granted. A typical RCD stability test, if undertaken thoroughly, commonly involves loading a boat such as a RIB, for example, with weight to replicate a payload of people and then experimenting with the shifting of that payload to determine the effect this has on the boat's lateral buoyancy and stability. Based upon the results gained from this and a detailed inspection of the craft, it is assessed and categorised accordingly. Though determining how much weight a boat can take before water starts flooding over its transom or at what point it is in danger of capsizing at low or even zero speed has its merits, this type of

test is very, very limited in my view – particularly in terms of contributing majorly to a sound assessment of a boat's true survival ability in certain wave heights or wind speeds. This is because a buoyancy/stability test of this type is invariably done in calm, sheltered waters, not in what would even be deemed as typical sea states and conditions. Furthermore, how relevant is a stability test undertaken in this manner to the type of use a boat is actually subjected to? Boats are dynamic objects, designed to work and perform by means of their interaction with other dynamic forces – not least water, one of the most complex and dynamic entities on the planet! Furthermore, the effect of power and propulsion upon the hydrodynamic qualities of a hull underway/at speed will be affected and even changed by means of weight distribution within the vessel. This can be caused by people, ancillary items or even structures inherent to the craft.

With such considerations in mind, it is my view that the RCD perhaps goes too far, misleadingly and unfairly overstepping the mark in the process – specifically when it places boats in categories, thereby deeming them suitable for conditions up to a maximum wave height or wind strength. To clarify: it must be considered that there is a serious likelihood of the RCD category

NOTES ON FIT-OUT

The internal fit-out, including the positioning of such key items as the seats and console, their design, the number of seats even, the weight of the engine including the positioning of the fuel tanks – all these things are critical elements that make the difference between a boat performing effectively and safely at sea or not. Indeed, regardless of a hull's inherent stability and buoyancy, its ability to perform safely and efficiently is dependent upon how well balanced the overall craft is. Not only will the positioning of its internal hardware determine this, but also the vessel's payload has to be taken into account – particularly its human cargo and where this is positioned on deck. In addition, even the design, type and quality of the vessel's steering system can and will have a very large effect on the overall safe operation of the craft.

STABILITY TESTS

In my experience, the RCD process will very often rate a boat to carry far more weight or persons than is safe or truly practical. Maximum weight ratings can often be much too generous in their claims. This appears to be largely as a result of RCD stability and buoyancy tests being undertaken while the craft is at rest as opposed to underway, and of the boat being asked to perform little more than what is expected from that of a glorified life raft! The result, therefore, is a false impression of the boat's ability to safely transport its cargo on the plane at a reasonable cruising speed in a normal seaway. In addition, the rated maximum number of persons often bears no relation to the number of proper seats the craft features.

rating system either giving rise to false confidence in a vessel's capabilities, or alternatively failing to give proper recognition of a boat's true seagoing capability.

Going back to the matter of 'survival'. If it is the case that the ratings are only intended to require a vessel to be sufficiently stable to survive at rest, and hence perform the function of a glorified liferaft while carrying the designated maximum payload the craft has been rated for, I have two important observations to make. Firstly, why is there no mention of the need for all vessels to carry a sea anchor? Because as we all know, the first thing a vessel does when it loses power is to swing broadside to the wind. Upon doing so, and without the correct deployment

of a sufficiently sized sea anchor, it immediately becomes vulnerable – especially in the case of a planing craft, which typically does not have the benefit of a deep keel or particularly low centre of gravity. Secondly, this being the case, how can the current stability tests made on certified craft be of any real worth when they fail to factor in the true implications of a vessel going broadside to a 4m breaking wave? The likelihood of capsize is very great indeed in such an instance, no matter how sound even a CAT B rated boat may be in terms of its stability in 'normal' or settled conditions. Stability, particularly in the case of fast planing craft, is primarily derived by means of forward motion through the water, or, at the very least, by having sufficient power to maintain a 'head to sea' position in relation to the prevailing conditions. Typically a 5m RIB could be rated for between 8-10 persons payload, I would question whether it would even get on the plane or have 'good handling capabilities'?

Moving on ... by their own admission, HPI state in their case FOR the directive that policing the RCD by Local Authority Trading Standards departments in Great Britain or district councils in Northern Ireland is extremely difficult, and much of the regulating of the system is essentially 'self-assessment'. By reading HPI's 'Case for the defence', you will note confusing gaps in the certification requirements for vessels less than 12 metres in length. Therefore, the system is not consistent or efficient in its regulation, compliance or enforcement.

In other countries, boats are often stopped at customs and impounded in marinas for having no CE mark.

To make matters worse, the situation is further complicated by the whole issue of 'customisation', because, rest assured, not every new boat sold that has undergone some form of customisation specifically for a client is then re-evaluated and/or reassessed for categorisation. By way of example, you could have two CAT B boats of the same model, length, horsepower etc., but each has been fitted out quite differently in accordance with the two clients' individual needs. At the point this model was originally assessed as CAT B, it would have been approved for use in wave heights of up to 4m and wind strengths of up to force 8, but now, due to customisation, such a rating may no longer be valid or sound. Why? Because one of the boats has been customised to the client's requirements in such a way as to make the vessel very poorly balanced.

This may be due perhaps to extra long-range fuel tanks being introduced or the introduction of additional seating in the rear of the vessel, which has the effect of causing her to be very bow-light. But despite these modifications, the original RCD CAT rating of the model stands, thereby sanctioning this boat as being suitable for use in force 8/4m seas and hence the owner has all the confidence possible in his new vessel. After all, he thinks that the boat carries an official mark stating it is capable of 'operating' in such conditions.

Do you see the problem here and how in practice the legislation is misleading? It's no good the RCD agencies stating on the one hand that the legislation isn't designed to give any assurance as to a vessel's seaworthiness or ability, while on the other assigning the craft a maximum sea state and wind state capability in which the boat should have good handling characteristics. You can't have it both ways, surely ...?

With something as complex as a boat and with so many variants available, I ask the question: Why should we have legislation of any sort that places



PERSONS RATINGS

We took a look at a random selection of recent craft we have tested to compare their CAT rating and 'persons' rating as follows:

CRAFT	CAT	PERSONS
Stingher 900GT RIB	B	12
Beneteau Flyer 7.7	C	10
Ranieri Caymen 23S RIB	B	15
Ballistic 7.8 RIB	C	15
Quicksilver 455	C	5
Fairline Phantom 40	B	10
Monte Carlo 5s	B	14
Flipper 880 ST	C	10
XO 250	C	8
Bavaria 400HT	B	12
Brig 6.1 RIB	C	10
Europa 5.2m RIB	?	10

It seems odd to PBR that a 12m motor cruiser can have a lower persons capacity than a 7-8m RIB, but instead can have the same persons capacity as a 5-6m RIB...?



Bearing in mind the need to always promote safety at sea, would it not be good if the RCD required manufacturers/sellers (in addition to the providing of a proper manual), the obligation to provide a one-day training course on handover of the craft. Such a course should familiarise the buyer with their boat including its safety systems and equipment, ie: the correct use of the killcord, lifejackets etc, along with basic seamanship and a certificate of completion.

boats in categories directly related to the severity of conditions? Especially if we are told it is not the regulators' intention or purpose to imply a vessel's capability or seaworthiness. Instead, why not have a simplified version of the directive that purely relates to materials used, strength of structure, quality of individual key components and also, as at present, safety standards relating to such items as electrics, installation and firefighting equipment? Specific and general recommendations to the consumer/boat owner could be made as to what additional equipment a vessel should carry depending on its use, i.e. when being used inshore or when being taken offshore, as well as sound advice on how to prepare for rougher sea states and the like, along with obligations on the part of the seller to still provide a manual for the craft but to also provide basic handover training. This would surely be far less draconian and prove more informative and educational for boat buyers generally. It might even save money too, in terms of time spent in flawed bureaucracy. More importantly, it would neither encourage ill-founded confidence in a vessel's abilities nor unnecessarily relegate a craft that might well be more capable than the present RCD ratings give it credit for.

Despite the comments of HPiVS, as it stands, some boat builders/supplier do use the RCD Category as a means to sell their craft as 'better' than another, using a certification that by its very nature

appears to be incomplete and even misleading. An adaption as above would surely put a stop to this?

The need to sea trial

Imagine two hulls, both 6 metres in length, and let's say they're both RIBs for argument's sake. The first boat is fitted with an outboard engine rated as being the maximum horsepower suitable for the transom in question. The boat also features an internal fit-out that includes a handsome-looking helm console, four sturdy jockey seats and a very comfortable-looking bench seat/lazarette fitted in its stern. On display at the boat show, beneath the lights, it looks just what most families would need and want in the way of a sporty, medium-vee-hulled RIB. Plenty of seating for friends and family, plus a healthy degree of power too, to guarantee a decent blast around the bay! The salesman does his job well and sells the boat to a mum and dad with two young teenage children - largely off the back of all the internal features and the nice little extras the boat carries. Oh, and by the way, it's rated CAT C, so no problem handling the seas around our fair isle! The family in question tow their investment away and on the way home talk excitedly about the adventure they're going to have upon slipping the boat for the very first time.

Now we come to the second boat. As we said, it's also 6 metres in length

... there is a serious likelihood of the RCD CAT rating system either giving rise to false confidence in a vessel's capabilities, or alternatively failing to give proper recognition of a boat's true seagoing capability.

but its internal fit-out is less extensive than the former. It features a good-sized helm console, but on this boat, if one looks carefully, you can see that this item is positioned just a smidgen ahead of amidships. Like the previous boat described, it too has four jockey seats, but unlike the other boat, this RIB has no aft bench seat or the attractive benefit of all that dry storage that unit offers; rather, it just has an open deck area ahead of the transom. It's worth pointing out also that the engine is a model that is several kilos lighter than the first boat described. This second boat, a deep-vee-hull design, also draws interest from potential customers at the show and eventually is likewise sold to a husband and wife - an older couple who told the salesman they wanted to purchase a 'good all-rounder' and a RIB that would allow them to enjoy some coastal exploration and cruising. Once again, this outboard-powered vessel comes with all the necessary formal assurances and classifications and, as in



the case of the other boat in question, it is also rated CAT C.

Both parties are convinced that they've bought just the right boat for their requirements. Indeed, on the face of it, it would appear they have. When the first party, our four-strong family, take to the water, they're graced with fine weather, but admittedly there is a fresh breeze and a small-to-moderate chop. The same applies to our husband and wife team –

... the system is not consistent or efficient in its regulation, compliance or enforcement.

their conditions are very similar, but if anything, perhaps even a little stronger.

Now, the first boat is rated exactly the same as the latter as regards its suitability for these very typical coastal conditions; but could the experience of both parties end up being very different? Remember: same length hull and overall proportions, same RCD category rating...

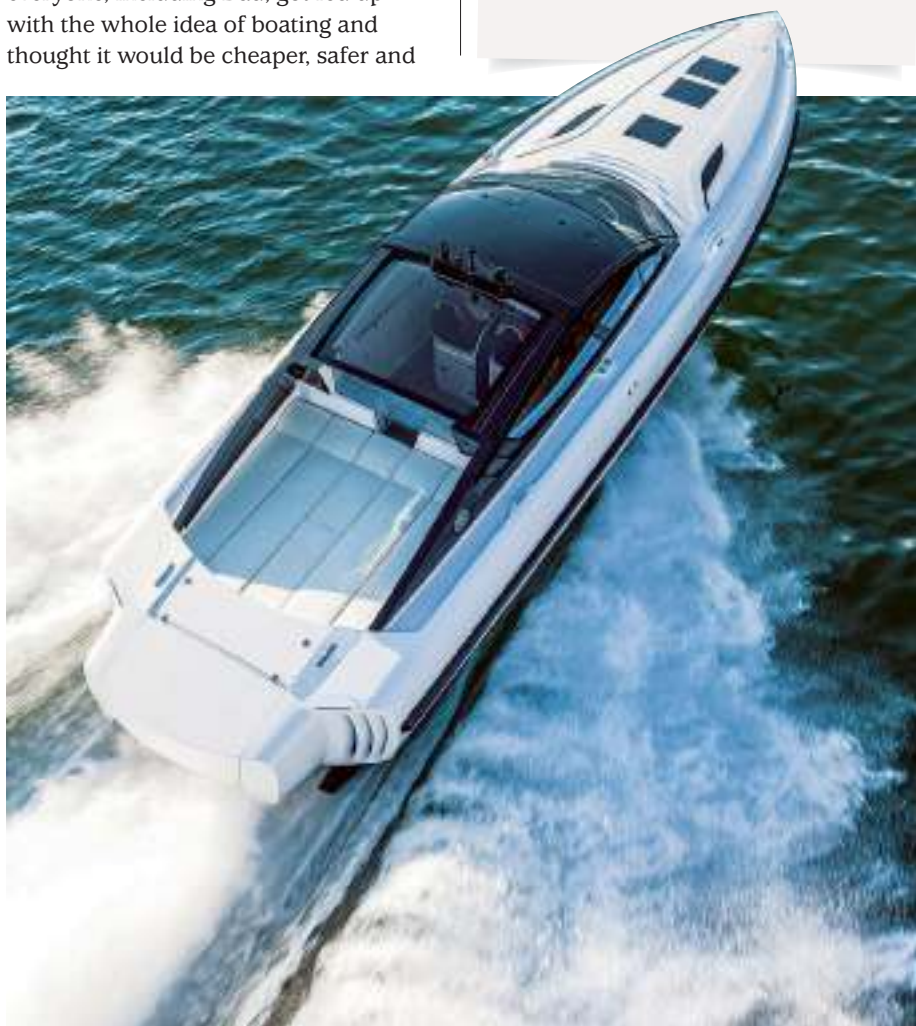
When our first family, along with their friends, utilised every seat in their boat, or even when it was Dad behind the wheel with the two children sat on the aft bench seat, on each occasion they found the boat had the alarming habit of trying to stand on its tail, even with the engine trimmed in. Mum and the youngest daughter didn't like it one scrap and were frightened – especially when Dad drove the boat directly into the oncoming seas. Dad and his two sons, being a little more bullish, were

in truth nervous and a bit alarmed too, but tried to reassure everyone else that this was typical of RIBs and not to worry too much ... When they found that the back seat was also like sitting beneath a mobile shower (again, largely attributable to the boat's unbalanced state), well, it didn't take long before everyone, including Dad, got fed up with the whole idea of boating and thought it would be cheaper, safer and

less hassle if they sold the boat and spent the money instead on a second annual holiday. So much for the CAT C implying that this craft was suited to carrying up to 10 people, that it could be powered by X amount of horsepower and was rated to be safe within seas of up to 2 metres and force 6 conditions! From the very disappointed viewpoint of our once keen, 'new to boating' family, the reality was: the RCD accreditation was essentially misleading because in practice there was no way this particular boat could ever be deemed capable or

TO CLARIFY

Although this feature describes two different fit-outs/internal designs, it should not be understood that I am recommending one type of internal design over another. Far from it. The differences in the fit-outs between the two boats in question are purely to illustrate that whatever internal design a boat may feature, it needs to be sympathetic to the boat's intended use and overall balance, and the hull's dynamics. Ed.



even truly safe in the conditions it was rated for.

But what of the husband and wife who bought the other 6m RIB in question? How did they fare? Well, in fact, as the day progressed the wind freshened some more and the sea got quite lively at times. But full credit to the hull, it danced along very sweetly through the chop, and as they later reported when they stepped ashore all smiles later that day, 'She hardly flew her head once. She rode level and never once felt out of her depth in the conditions. We could get a taste for this!'

But why such a different outcome? Because the manner in which the boat had been fitted out and set up took into account the hydrodynamics and overall performance characteristics of the hull itself. The weight that the boat was expected to carry, both human and GRP, was positioned in such a way as to not interrupt its performance, or destabilise or interrupt the hull's hydrodynamic qualities. Never mind the static mathematical theories officially deemed by Brussels to be the criteria by which a craft is declared safe and fit for purpose, in practice this boat 'worked', and for sound reasons that encompassed a multitude of critical factors. Reasons that

in reality, and not unexpectedly, may be anything but apparent, especially to a first-time buyer looking at a craft within the glamorous surroundings of a boat show.

This illustrates, I hope, that there are many factors involved in determining whether a boat is fit for the purpose and the environment for which it is intended. I have driven and tested more boats than many of my contemporaries. I have traversed more miles at sea in small open boats and encountered sea states more numerous, including the extreme, than most people are likely to encounter in a lifetime of boating. This is not to boast, it is just to underscore the fact that I know what makes for a sound boat. It isn't about size, length or width of hull alone; it's about a multitude of factors that the RCD fails to address and doesn't even test for. On the one hand, it claims it does not exist to provide a statement as to a vessel's seaworthiness, but at the same time it makes a judgement over what conditions a vessel is fit for use in. And, while it stands as it does, it leaves it open for ongoing misinterpretation from buyers and sellers alike.

The lesson from this has to be that whilst the Recreational Craft Directive has made an undeniable contribution

to the improvement of build quality and the safety of installations, its categorisation of vessels has little real ability to properly and responsibly inform the consumer whether a product is really fit for purpose. An additional word of caution here: if you are found to be using that product/boat in conditions exceeding its category rating or if you exceed the passenger or horsepower rating, be aware that, depending on the insurer, it could mean that it may render the terms of your insurance(s) invalid in the event of an accident where the seaworthiness of your craft is at question, it might even make the skipper/owner of the vessel more exposed to the likelihood of being sued by an injured party and held legally liable. (You should check this with your own insurers.)

In conclusion, my advice is this.

- Don't rely on the CAT rating as a guarantee of a boat's ability.
- Never buy anything without proper sea-trialling.
- Try to sea-trial it with a similar complement of people aboard as that which you expect to carry once you

Always always thoroughly **sea trial** before buying



take ownership, in order to see how she handles and performs fully loaded.

■ Research boat test reports such as those featured in this magazine, to determine the opinion of an experienced tester prior to purchase.

■ Be cautious if the boat salesman tries to place too much emphasis on the CAT rating of his craft – especially when the subject of his competitor's craft enters the conversation!

■ Ask when the CAT rating of the model in question was granted, as the ratings have changed/been modified in recent years and a design/model that was rated CAT B several years ago could, if it was made subject to a re-evaluation today, now be rated CAT C.

■ Remember that the CAT rating does not factor in all the critical elements involved in determining whether a boat is really fit for purpose or is one that actually 'works' in practice at sea.

■ The RCD does not cover in detail either the quality of ALL the vessel's components or the effectiveness of their design, seating being a prime example.

When it comes to the element of the Recreational Craft Directive that rates craft as to their suitability within different sets of conditions, it could be argued that the certification may not be worth the paper it's written on. The fact that categorisation of this nature is totally unnecessary is proven by the fact that even HPiVs use the US statistics and the effectiveness of the ABYC standards to prove the worth of the RCD, and yet, in the US these standards

WHAT THE INSURANCE COMPANIES SAY....

PBR WROTE TO six of the leading marine insurers to ask if an insured individual made a claim on his marine insurance, would it effect the success of his insurance claim if the vessel was operating in conditions that exceeded the CAT rating of the boat.

In response to the above request for clarification and the company's position over the latest legislation, these are the responses we were given...

■ GJW Direct

Declined to comment.

■ Towergate Mardon

Declined to comment

■ Pantaenius Insurance

'Pantaenius Yacht Insurance policy terms and conditions do not include any exclusions that refer to the RCD CAT rating system.'

■ Craftinsure

'Under marine insurance law dating back to 1906, there has always been a fundamental insurance requirement for an owner to ensure that their vessel is 'seaworthy'. Apart from being structurally sound and properly maintained, seaworthiness includes the requirement for a boat to be suitable for the waters and conditions in which it is being used, that it is not overloaded, and is adequately crewed. In our opinion, the fact that a boat is used in conditions that exceed the official CAT rating would not necessarily result in 'unseaworthiness' depending on the

individual circumstances, but might well be considered as evidence to support this view in the event of an insurance dispute. It's perhaps also important to appreciate that even if being used within the official CAT rating, a boat could still be considered 'unseaworthy' when taking all factors into account.

Unless insurers included a specific policy requirement that a boat is only to be used in conditions that comply with the official CAT rating (which we believe is very unlikely), use outside the appropriate conditions would not automatically invalidate their insurance. However, owners should certainly take the CAT rating into account when using their boat, not least as it could be regarded as a factor in the event of an insurance claim where seaworthiness is in question, or where it is considered that an owner may have acted recklessly.'

■ Porthcawl Insurance

Failed to respond by deadline.

■ Yachtsman Euromarine

'Unfortunately we won't be able to contribute to this report at this stage. We have not been able to gather sufficient information to make a formal comment. We are still unclear about its application in Ireland.'

Note to Readers:

PBR recommends you may wish to check with your own insurers as to your policy wording.

are not the same as the RCD as they DO NOT categorise and DO NOT refer to wind strength and wave height. Boats simply carry a plate which identifies the craft as having met the standards, which are all about the quality of build, it says 'NMMA Certified using ABYC

Standards'. HPiVs stated 'we would all start at the same place: by dividing boats into categories' and yet the Americans didn't. If the US standards are so successful and they do not see the need to categorise, why do we?

HMS



Inset above: The US stamp of certification.



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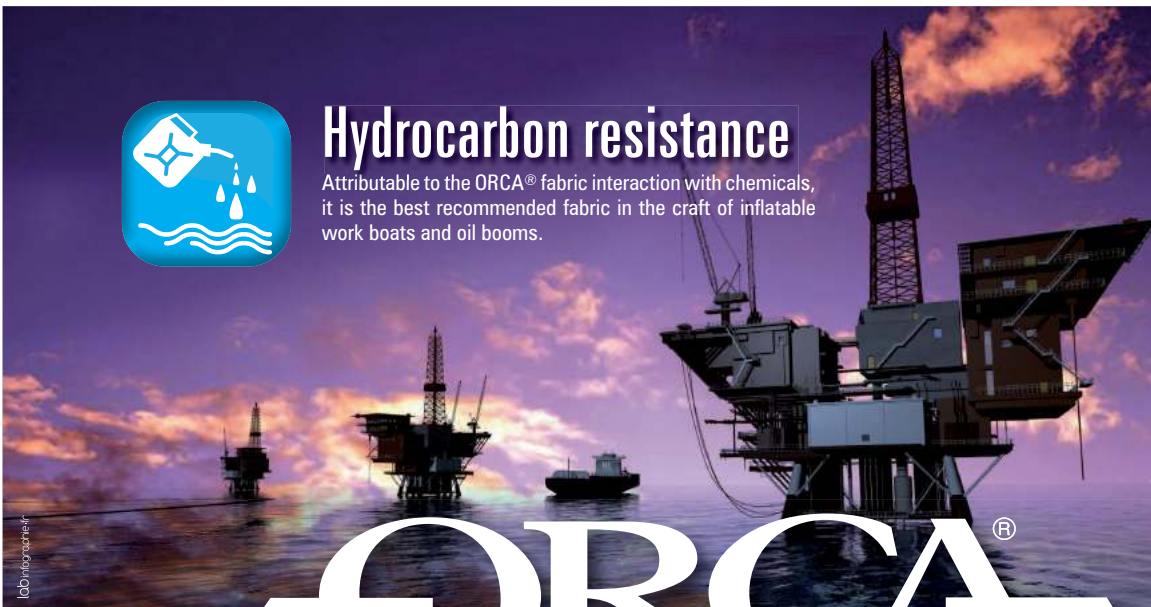
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ON THE WATER
NEW Engine for Yamaha PWCs

NEW Engine for Yamaha PWCs

*PBR discusses the changes in the modern-day PWC with
a focus on Yamaha's WaveRunner.*

PHOTOGRAPHY © MIKE JONES



Photo: HMS at full tilt in the fast lane!

PWCS ARE LIKE nothing else on the water. Regardless of spec, they are incredibly fast, loud and wild. Without a doubt they can bring out the inner rebel in any rider. But recent years have seen them mature. Apart from a couple of race versions, the stand-up two-stroke boy-racer machines have been replaced with three-seater refined cruisers. But some enthusiasts feel that the character has gone too. In answer to this, Yamaha have made some big changes to their

WaveRunners in an attempt to make them more fun.

WHAT'S NEW?

Yamaha have focused on making their WaveRunners more exciting and enjoyable rather than on increasing speed. Weight has been cut in the form of a new engine, and new hull and deck manufacturing processes. They have also launched a RIDE system, which will help with safety and handling.

ENGINES

The V1, V1 Sport, VX Deluxe and VX Cruiser have an all-new lighter and smaller engine. It's not a reworked version of the old MR-1, but a marinised snowmobile engine, namely the TR-1. That's no bad thing, as it appears to be a great engine looking at the figures: it's 25% lighter, 13% more powerful – we have to take Yamaha's word as no official power figures have been



released – and 20% more efficient. The power gains and weight savings come from dropping a cylinder, as well as small touches, including a compact performance exhaust manifold and muffler as well as a ceramic and nickel composite coating to the cylinder bores to reduce friction. But the most impressive figure is the reduction in size – it's 40% smaller, having done away with the forward air intake and various other extremities. This also means that the engine can be mounted more centrally, improving weight distribution and leaving space for vital service and maintenance access.

Four-cylinder engines have a smooth symmetrical noise, but a three-pot can cause unnecessary vibration. Despite that, Yamaha's head marine engineer told us: 'The benefits of having one less cylinder outweigh the difficulties we faced in making it as smooth as a four-cylinder.'

The FX and FZ models will continue to have the larger 1.8L engine, but with the addition of the new RIDE system and the NanoXcel hulls.

NANOXCEL

Rather than using the common bond, Yamaha use exfoliated clay to make the hull and deck, which is a more efficient make-up and makes a stronger



and lighter bond. While the V1 models continue to have common moulds, it means the slightly larger and better-equipped VX models are even lighter.

The top models get the NanoXcel 2, which uses glass microbubbles to make an even lighter and stronger mould. The result is the lightest but strongest hull and deck on the market.

RIDE SYSTEM

Yamaha aren't the first to come up with an advanced control system, with Sea-Doo launching a similar system last year. RIDE moves away from the traditional mechanical lever that physically redirects the flow of water

The RIDE system was fantastic as a toy and safety system.

out of the back, creating a reverse that's a simple finger lever, identical to, but on the other side of, the throttle. Unlike the mechanical unit, it can be used at speed and takes no muscle to operate. Flying along at 40 knots it's a brake, but when in the marina it gives the rider far more control and the ability to berth without having to manhandle the craft past moored boats.

The New VX Cruiser



***The most versatile
all-rounder in it's class***

New TR-1 Engine

The exciting new 3-cylinder 1049cc power unit is the pinnacle of marine engine innovation and features in the WaveRunner V1 Sport, VX Deluxe and VX Cruiser models. The TR-1 engine is 13% more powerful than the MR-1 engine that it replaces, while being 40% smaller and 20% lighter. The result is quicker acceleration, higher top speed, sharper handling and even better fuel economy creating more fun for the rider.



V1 Sport



VX Deluxe



VX Cruiser

Deluxe and Cruiser fitted with RiDE

RiDE is an ultra-intuitive dual throttle control system which makes driving a WaveRunner easier and more fun than ever. Pull the right hand throttle lever to go forward, pull the left hand RiDE to go in reverse or pull both levers at speed to slow down quickly and gain maximum control over your ride.



Yamaha have focused on making their WaveRunners more exciting and fun, rather than on increasing speed.

TESTING

V1 AND V1 SPORT

The V1 and V1 Sport are identical bar the colour schemes, the rear-boarding ladder and mechanical reverse, and with just a few kilograms weight difference the performance is identical. We took the Sport for a blast and 'basic' certainly doesn't mean bad – the V1 is a lively little thing. Yamaha won't release official power figures, but what ever it has, there's a lot in that new engine. It revs quickly and it takes no time to get through the torque curve. The waves were surprisingly big for a lake, but

that gave us the chance to see how it handled in the rough stuff. It bounced along happily, handling everything that was thrown at it, although it could have done a better job of deflecting the spray away from the rider.

The V1 doesn't get the new NanoXcel hull and deck technology, so buyers will have to make do with the common SMC bonded plastic, leaving it with a lower power-to-weight ratio. But with less kit fitted as standard, the weight difference between the V1 and the VX is minimal at 305kg compared to 301kg.

VX DELUXE AND VX CRUISER

The next one up is the VX range, available in Deluxe or Cruiser guises. The differences are minimal, with the Cruiser having a more supportive seat as well as a waterproof glovebox and cup holders. The TR-1 engine works a treat on the water, offering the same quick performance as the V1. There's no noticeable difference in performance from the V1, but as the waves had calmed slightly, we could throw it around a little more and

experience how it was at higher speeds. Even with the calming waters, I let off the throttle before the VX would stop accelerating. It felt fast, really fast, and I never felt that I wanted any more power. The RIDE system was fantastic as a toy and safety system. Boats don't have brakes, but pulling back on the left-hand lever slows the craft down considerably, resulting in endless sharp turns and manoeuvres.

FX SVHO

Time to compare the smaller WaveRunners with the beast that is the supercharged FX. It feels a much bigger machine when jumping on the three-person seat. When in the marina you just have to use the No Wake system, as even the most sensible rider will find the urge to speed too great. Once in open water, a quick flick of the throttle and the display is reading 40 knots. Pull it back fully and you're going too fast, and will need that brake. It's insanely quick, and if we were to be bold, too quick. It's capable of going at motorway speeds. [PBR](#)



PBR's Greg Goulding tries his hand!

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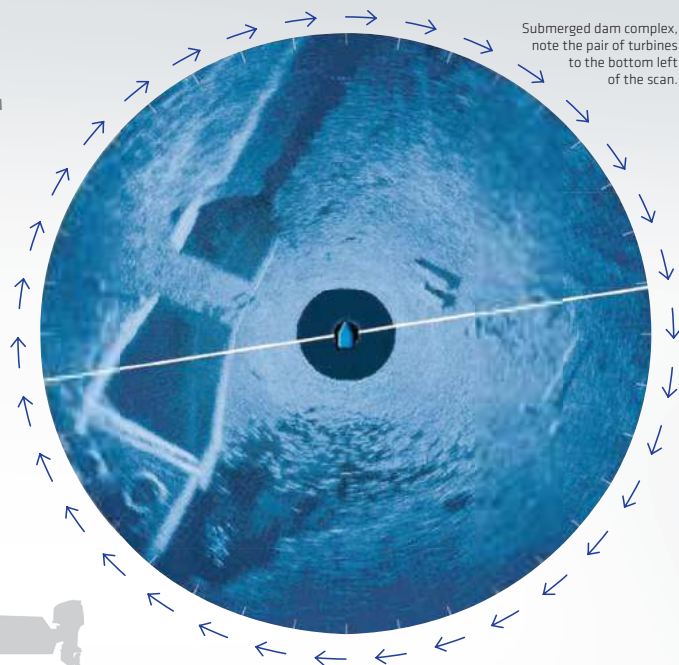
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WINDY GRAND MISTRAL 37

Greg Copp looks back with fond memories as he savours the abundant qualities of a Grand master ...



i CHOICE CUT

2009 Price: £185,000

Featured in this article, About Time is located at Lymington and has the popular blue-hull option. Powered by 300hp Volvo D4s, she has logged 280 hours and is fitted with Raymarine electronics. She is one of the last Grand Mistral 37s to be built in Norway and has been fastidiously maintained. She has the ivory leather interior option and the cabin sole is Old Marsh Oak, which is well complemented by the light satin oak joinery. It's evident that this boat has been very well cared for above and below decks. All the teak and the covers are in perfect order, with her GRP polished as it was when she was commissioned.

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THE GRAND MISTRAL 37

was my first Windy experience! It was nearly nine years ago but the memory sits etched in my mind. Sadly it was not mine but my friend Tracy's boat. Tracy was (and no doubt still is) a dyed-in-the-wool Windy fanatic, keen to spread the gospel by taking me out in a force 6 in the Solent. She had owned her KAD44-powered 2001 boat from new and had even shipped it out to the Far East when work beckoned. Now back in northern waters, her Grand Mistral was doing what it does best – running flat out into a weather nightmare.

I patiently waited my turn and it was not long before Tracy offered me the wheel. I did not want to appear too brutal with somebody else's boat, Windy or not, so

I threw her into some ever increasingly tighter turns for starters. With just over two turns lock to lock, the rakish Grand Mistral can be thrown around like a two-berth sports boat. Even with a strong sea hitting you on the beam at the apex of

the turn, the stability of the deep-vee hull is reassuring. We then ran into the eye of the weather, with Tracy encouraging me to nail the throttles for the ultimate upwind Windy experience. I remember thinking, as we cracked on past 30 knots,

RUNNING COSTS

i MAINTENANCE

The Volvo D4 will cost around £500 to service, with the KAD44 and KAD300 being slightly cheaper to maintain. The cost of spares has never been a Volvo strong point either in the UK or overseas, however availability and the abundance of service agents are very good in the UK and Europe. If you find a Yanmar-powered boat the cost will be much the same, though some spares are cheaper.



Starboard D4-300: Engine, ancillaries and calorifier access is great.

AT ONLY 6.5 TONNES (LIGHT), THE GRAND MISTRAL 37 WAS A VERY FAST BOAT ... AND STILL IS.

THERE IS ONE WORD THAT DESCRIBES WINDY BUILD AND FINISH AND THAT IS 'SUPERB'



that most sub-7 tonne sports cruisers would be running at low planing speeds in such conditions.

First introduced in 1998, the Grand Mistral 37 replaced the Grand Mistral 36 by growing 5 inches. Unlike the 36, the Grand Mistral 37 was offered in

both open and hardtop versions from the onset, at a time when hardtop sports cruisers were relatively scarce. This Scandinavian aspect of the Grand Mistral would soon prove its worth as the UK summer became increasingly unpredictable. Sleekly styled, the hardtop

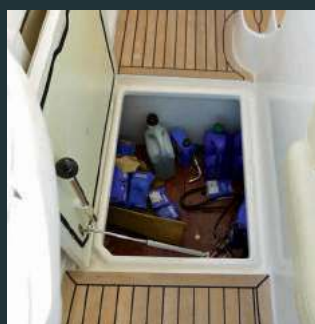


A compact wet bar and cockpit fridge. Later boats will be fitted with the powerful skew-blade Sloopier bow thrusters. A worthwhile upgrade.

THOUGH ACCOMMODATION IS SECOND ON THE LIST OF DESIGN PRIORITIES WITH THIS BOAT, IT IS FAR FROM WANTING.

FUEL

Boats with common-rail injected 260hp/300hp D4s will return a healthy 2.5mpg between 25 and 30 knots. The mechanically injected Volvo KAD44s/KAD300s and Yanmar 6LPA-STZPs by their nature will not be so efficient; however, the Grand Mistral's efficient hull will reap dividends no matter what engines are used.



Under-deck storage for all that inevitable boating junk.



Seating for six around the typical Windy high-gloss teak table.



The helm area takes three, with a raised footboard for the helmsman to stand and look out of the sunroof.



Many earlier boats had the traditional long-lasting blue Sunbrella upholstery.



Fender cages are a feature often forgotten on sports boats.



▲ Compact but superbly finished, with Corian top and 65L fridge. ► Loads of discreet storage compartments around the forward double berth in the master cabin.

has a sunroof opening to a third of the roof space. If you succumb to the inevitable craving for some wind in your face, you do not need to be a Scandinavian giant to drive standing with your head out of the top. The helm ergonomics are perfect seated or standing, with a chartplotter under your line of sight.

In the engine department, the twin diesel 230hp Volvo KAD43s of the old 36 were replaced by diesel 260hp

Volvo KAD44s on duo-prop sterndrives. There was even the option of diesel 315hp Yanmars with MerCruiser Bravo 3 sterndrives, though these were rare. At only 6.5 tonnes (light), the Grand Mistral 37 was a very fast boat ... and still is. From 2002, twin 285hp Volvo KAD300s were available; they were replaced in 2005 with Volvo's new D4 common-rail injection diesel engines – first in 260hp form and then 300hp. Windy resisted

offering the heavier 5.5L D6 engine, which some of her competitors were fitting to similar boats, as they rightly considered the power-to-weight ratio, weight distribution and efficiency spot on with D4s. Performance varied from 38 knots for boats with KAD44s and 260hp D4s to 40 knots or more for boats with KAD300s, 300hp D4s and the big 315hp Yanmars.

As with any pedigree sports cruisers, the secret is in the hull, and every

THE RIDE IS VERY SOLID WITH VERY LITTLE SLAMMING OR DRUMMING IN THE HULL.

yard has its own spin in this department. Windy combine a particularly narrow waterline beam of 9ft amidships with a distinct flare to the topsides



i DATA FILE

Build period: 1998 to 2011

Designer: Hans Jorgen Johnson

Berths: 4

Cabins: 2

Hull type: Deep-vee planing

Transom deadrise angle: 20 degrees

RCD category: B for 9

Current values: From £80,000 to £170,000

Length overall: 36ft 07in (11.14m)

Beam: 11ft 6in (3.5m)

Draught: 2ft 11in (0.9m)

Displacement: 6.5 tonnes (light)

Fuel capacity: 178 gal (810 litres)

Water capacity: 48 gal (220 litres)

Cruising range: Approx. 300 miles with a 20% reserve at 30 knots



The main cabin can squeeze in four around the table.



▲ There is plenty of headroom in the heads.

to provide the boat with a topside beam of 11ft 6in. With a bow deadrise angle of 48 degrees, the Grand Mistral is exceedingly rakish where it counts, and the abundance of hull flare helps to keep most of the sea off the foredeck and windscreen. Unusually, the fuel tank on the Grand Mistral is located under the master cabin double berth, instead of the conventional location just forward of the engines. This undoubtedly has a positive effect on

the boat's running trim, efficiency and upwind performance into rough weather.

Though the overall appearance is that of a hull with forward concave sides, it is actually moulded in a series of mildly convex panels to enhance strength. Couple this to well-compacted hand-laid laminates and

Room for a TV at the bottom of the companionway steps. Opposite the TV sits a hidden drinks locker. The master cabin has two hanging lockers either side. ▼



i POINTS TO CONSIDER



→ ENGINES

This boat was originally launched with two engine options of either 260hp Volvo KAD44s on Volvo duo-prop sterndrives or 315hp Yanmar 6LPA-STZPs on twin-prop MerCruiser Bravo 3 sterndrives. The Yanmar-powered boats are rare as the first-generation MerCruiser Bravo 3 drives that they were fitted with could self-destruct if driven hard. The second-generation Bravo 3 X drive that MerCruiser brought out solved this problem. Subsequently the Volvo option proved popular and the KAD44 was replaced by the 285hp KAD300 in 2002. In 2005, the common-rail injected 260hp Volvo D4 replaced the KAD300, with a 300hp D4 offered a few years later. Coupled to Volvo's DPH duo-prop sterndrives, the D4 engine was a popular and reliable power plant, as were the earlier KAD engines.

→ DEPRECIATION

The Windy brand is known for holding its value and the Grand Mistral maintains this tradition. The fact that 17-year-old examples are still fetching close to £100,000 shows just how popular these boats are second-hand. If you look at a comparable boat built by a British yard of the same age, you will see how much the Grand Mistral has held its value.

→ BUILD QUALITY/FIT AND FINISH

There is one word that describes Windy build and finish and that is 'superb'. This, and exclusivity, is why they hold their value so well.

→ BUYING IN EUROPE

These are Med boats by nature, though they are hugely popular in northern Europe. If you are looking to keep one somewhere warm, buying one out there can make sense as prices tend to be lower. Also, the Grand Mistral's high-quality gelcoat survives the sun better than most.

→ SUNROOF OPERATION

Some of the pre-2001 hardtop boats had problems with the electrically powered sunroof. It is likely that most will have been rectified as Windy's warranty care is very good, but it is worth checking if you are looking at a pre-2001 example. Also expect to pay more for a hardtop boat no matter what age.



Cutting edge – the rakish flared bow of the Grand Mistral.



a closed-cell foam core (enhancing strength while reducing weight) and you have a tough hull, which is held together by some very serious stringers. When you look behind the scenes in the engine room, the standard of build is obvious. The internal laminate quality here is superb; everything is perfectly located, making engine checks a breeze. All ancillaries are mounted where you want them, with plenty of space to get at them, and impressively the

fuel filters are located in a separate locker beneath the cockpit. More obviously, the external gelcoat finish is outstanding. Blue-hull boats have always been popular, and looking at About Time, featured in this article, you can see why. Windy gelcoat finish is notoriously good and probably one of the best brands when it comes to resisting sun and salt, which any colour other than white suffers from noticeably over time.

Though accommodation is second on the list of design

priorities with this boat, it is far from wanting. The main cabin is comfortably what you expect from a boat built with performance and seakeeping as main priorities. The saloon will sit four snugly, and the galley is a compact affair, which in the case of later boats is very neatly finished in satin oak with a Corian worktop, hob, oven and 65L refrigerator. The heads is also compact and does not boast a separate shower cubicle, which, considering how infrequently people

use on-board showers, is not really a major hardship. The forepeak master cabin boasts a good-size double berth and loads of small storage compartments around it as well as two small hanging lockers ... It appears not an inch of space has been wasted. When it comes to sleeping accommodation my choice is the mid cabin, which is remarkably spacious, all things considered. There is full standing headroom in the doorway and the wide double berth is bigger than the forecabin.

The cockpit is your typical sports cruiser layout, in this case sporting plenty of helm seating that will take three easily. The horseshoe seating set-up behind will take six around the ultrahigh gloss teak table. The bathing platform boasts a fender cage, and in the same practical vein the side decks sport tall guard rails.

A well-known marine surveyor once said to me, 'If it costs £300,000 to build a boat that is 95% perfect, it will cost twice that to build one that is 100%, therefore few yards cross that 95% barrier.' It would be fair to say that Windy are one of those few. **PBR**

i JIM'S WORDS

Jim Pritchard BSc CEng MRINA MIIMS - www.jimpritchard.co.uk

The Windy Grand Mistral 37 could be considered to be the sports cruiser that sets the standard for all others to follow in this size range. I always look forward to surveying any boat in the Windy range, as the build quality is invariably superb, and as a class they tend to be cherished and well looked after by their owners. In fact, I can remember surveying only one Windy that had suffered from owner-inflicted brutality.

You can get a good idea of the rigid hull design and construction by driving a Grand Mistral 37 at speed in rough waters. The ride is very solid with very little slamming or drumming in the hull.

The older boats may have the Volvo KAD44 or KAD300, both of which are very well-proven workhorses. The subsequent D4 engines had a few issues with their earlier production, which should by now have been rectified under the Volvo 'Campaign' after-sales system, but best just to make sure through a Volvo service agent before buying. Beware also of the D4 not initially taking the correct volume of oil when filling, even though the dipstick indicates the correct level, as this has been found to cause damage. Following an engine service, recheck the dipstick after running the engine for about 5 minutes.





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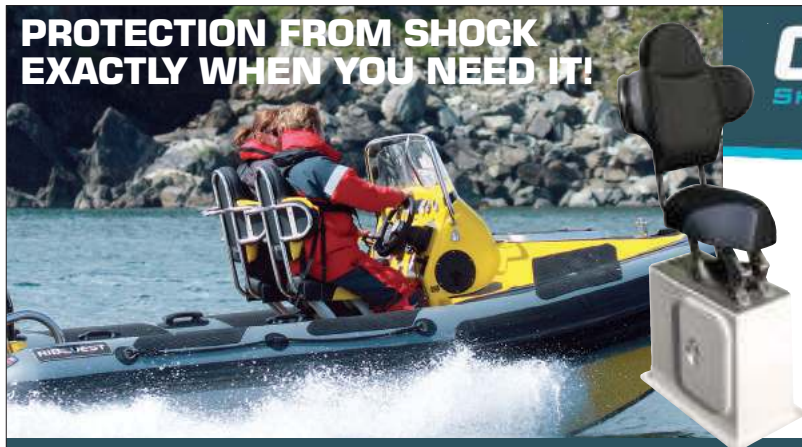


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A red speedboat with a black outrigger is shown from a side-rear perspective, moving across the water. The boat is sleek and modern, with a black outrigger mounted on its side. The water is a light blue-green color, and the boat's wake is visible.

Interview Unwin's Odyssey...

Peter Unwin is an unusual powerboat enthusiast. His heritage may hail back to the swinging 60s but his passion for performance propels his continuing exploits firmly into the future. This is the first part of Peter's story ...

IN 1958, my late father Ken Unwin took the whole family to a boat show in Birmingham, where he purchased a raffle ticket and was fortunate enough to win the first prize of a small boat with an outboard motor. After the show he was able to do a deal with the manufacturers whereby he added some money and purchased one of their larger runabouts.

He then bought an old Ariel Square Four as a donor for its engine and built a very primitive form of outdrive to transfer the power to the water. It took about a year of working in his spare time to get the boat ready for its first trials, and although there were lots of teething troubles, he didn't let them put him off.

All early testing was done with the

landowners' permission on old gravel pits or deserted parts of the River Trent. During this time he met a few other people with a similar interest in boats and they decided to form the Burton Speed Boat Club at Drakelow Deepes near Burton-Upon-Trent. It wasn't long before they had a considerable number of members and a variety of boats, and racing took place on an almost weekly basis during the summer.

In 1960, he bought a Healey Sprite and fitted it with a 45hp Mercury outboard; however, he soon part-exchanged it for a 65hp to make the boat faster. Never one to stand still, the next modification was a completely home-made power trim



Main photography by James Chance

system that enabled trimming out on the straights and in for the sharp U-turns, giving a much faster lap time. During this period my dad made his fellow members trailers for their boats, which were custom-built and tailored to each different craft.

Dad was now commodore of the club and things were going really well until British Waterways decided to dredge the river. Unfortunately they removed a weir downstream, which dropped the level to such an extent that racing had to be halted. Dad and a few of his friends joined Chasewater Speedboat Club so that they could continue with their passion. The Healey, however, proved to



Here the Unwin design foil, is seen in all its glory on the bow of the vessel, pictured just outside Lymington.



From left to right: Sumptuous seating at the helm; carbon fibre dash with inset dials; big navigation screens ahead of the high performance wheel.

Many weekends were spent with an angle grinder and various other power tools, cutting out all the damaged areas.

be unsuitable for the wide-open fairly rough waters of Chasewater.

Family holidays were taken at Exmouth in Devon, where we met Chris Tremlett from Topsham and soon became friends. Dad ordered one of the first 14ft deep Vs that Chris built and outfitted it himself, including manufacturing the deck. He raced it for several seasons in the ET class, and by now I was old enough to help with the builds.

In 1966, Ford introduced the Escort and Dad ordered a 1300 GT engine for the basis of the next project. This time

the hull was supplied in two separate parts, which enabled us to reduce the weight and have a steeper V. A lightweight outdrive was fabricated from scratch and fitted into the boat ready for the Chasewater 50-mile endurance race. Practice went extremely well – the boat was far quicker than the opposition and went on to win first time out.

In 1967, I started my apprenticeship at Rawdon Foundry Ltd as a fitter machinist, and what a fantastic place to learn a trade it was. In the following year the boat took part in the Chasewater 24-hour race, where it finished first in class and won numerous other trophies. Over the next couple of years the boat had extensive modifications, each of which made the boat quicker.

Dad's last racing season was 1970 as he had such a good offer for the boat he decided to sell it on the spot. The next four years were spent building motor caravans and also pleasure boats for our

own use – we still had a huge interest in powerboat racing and visited Bristol Docks and Windermere for the speed trials every year, as well as any offshore powerboat racing we could find.

By 1975, my interest had moved towards custom vans and we started making parts in our spare time to earn a few pounds. It wasn't long before the Ford Motor Company spotted our efforts and commissioned us to build the 2001 Space Odyssey six-wheel transit. What a



Twin throttle control to starboard side.

break! On the back of this, we decided to form Unwin Engineering Ltd.

The early 80s saw the business focus more on engineering. We also became agents for Mosselman turbo systems, supercharging and turbocharging high-end performance cars. However, the mainstay of the business became

the design and manufacture of small hydraulic drill rigs.

The next progression was to change the company name to Unwin Hydraulic Engineering Ltd. Manufacturing continued but we also became a cash-and-carry for anything hydraulic, including a full diagnostic and repair

department. My main hobby at the time was track days with supercars; however, always being one to want to go as fast as possible, this turned into track days with race cars. I did all my own preparation and even designed and manufactured suspension components and aerodynamic aids. Then, on a day out to Wales with my new girlfriend Carolyn, we saw lots of people enjoying their powerboats, which started the cogs turning once again. Wouldn't it be nice to have a boat large enough to live on at weekends?

So we did lots of research, arranged a shortlist, conducted some tests and finally decided on a Hunton XRS 37. We visited the factory every couple of weeks during the construction period and she

**... can I get a
5.3-tonne unstepped
diesel pleasure boat
with full weekend
accommodation to run
80mph plus while still
giving amazing fuel
economy?**

was eventually launched in March 2007. The engines were Volvo D6 350s with DPR drives. The boat ran at 62mph with a very comfortable dry ride; however, once the running-in period was over, the engineer in me started to think of ways of making her quicker. The first modification was cupping the propellers to allow more trim and bow lift, which raised the speed to 66mph. This was pretty good, but I now needed more power, so I built a set of through-transom free-breathing exhausts, and this, along with an ECU remap, saw the speed rise to around 70mph.

The next few years saw numerous other modifications mainly focused on



Internal conveniences, even on this high performance thoroughbred.



Accommodation aboard with modern, no nonsense styling.



The man himself relaxing behind the wheel.



Unwin's engineering headquarters.



Unwin's racing Porsche on the racetrack.

making the engines and drives reliable at higher HP. At the end of 2013, the engines had completed around 1000 hours of very spirited use. It was time for a rebuild. The first job was to remove the engines, followed by the drives and transom shields. During this process I noticed that water had penetrated some areas of the transom and engine bearers. This was not a good sign, so I took the decision that the transom engine bearers and inner skin had to be cut out. Many weekends were spent with an angle grinder and various other power tools, cutting out all the damaged areas. During this process I came to the conclusion I could save a huge amount of weight by changing the materials and design of the transom and engine bearers. They are now high-density foam with Kevlar and carbon overlay, all bonded together with epoxy resins.

Starting with a clean sheet of paper enabled me to reduce the engine centres from 950mm to 800mm, allowing a higher X dimension and lower centre of gravity. Having priced up the parts to convert the 350s to 435s, the spec plus full rebuild kits and labour came to more than buying a pair of brand-new 435 bobtails, so the old engines were sold off and a new pair of 435 bobtails ordered. I also ordered the extended bell housings from the 400 sterndrive package to move the engines forward by about 5.2 inches. This makes maintenance much easier, and also, along with the reduction in the weight of the back of the boat, moves the longitudinal centre of gravity forward by about 15 inches, making



Hunton are a renowned British boat builder, this craft with Unwin's customisation is unique.

the boat fly much more level and more comfortably in rough water.

The downside is that unstepped V hulls need the smallest contact area possible if you want to run fast, so my thoughts are turning to the aero package on race cars. Could I use a wing flipped upside down on the bow to get back the lift lost by the high X dimension and move the centre of gravity forward? So I designed and built a bow-mounted wing – it has linear actuators on the trailing edge so I can change the angle of attack very easily while moving. The calculated lift at 75mph is 250lb, and it also has a good damping effect, making the boat even more stable. The engines are standard at the moment, and when I repitched the propellers I allowed for more power. Even though the engines aren't pulling full revs, she still managed a very

credible 76mph.

Now, during the winter, I am doing lots more modifications: 1. more engine bay ventilation and a cold-air induction system; 2. completely redesigning the cooling system to allow for an HP increase; 3. remapping the ECUs to increase the RPM range and HP; 4. reworking the steering pumps to give even quicker, more responsive steering.

So the question is: can I get a 5.3-tonne unstepped diesel pleasure boat with full weekend accommodation to run 80mph plus while still giving amazing fuel economy? [PBR](#)

NEXT TIME...

Join us in the next issue to learn more about Peter's exploits and the customisation of his Hunton and other craft.





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Exclusive Interview with Aiden Foley, Event Director for the Venture Cup 2016.

Tell us, Aiden, what is your background and how did you become involved with offshore powerboat racing?

Well, my professional background is all around events and festivals. I spent over 20 years working on the Diageo sponsorship portfolio and that covered everything from small community festivals right up to major international sporting events. On the pastime side, I've been 'on the water' since I was four or five, starting with a tiny inflatable dinghy my dad bought to try and get me to share his love of the sea [he

succeeded!] and then into sail ... of a sort. A crazy young couple came to Ireland and set up the country's first windsurfing school. I tried it, loved it, competed in it and stayed with it for many years. From that I moved across to racing Dart 18 catamarans before eventually realising that to be competitive I had a choice – get fit and lose weight, or go for power! That, ultimately, brought me to ThunderCats and the terrible influence that is Fiona Pascoe. She dragged me into the sport, and by applying what I was doing

in my professional life I was soon in the thick of organising races. That eventually led me to Mike Lloyd and the rest is history.

How and why did you take up the challenge of organising the Venture Cup?

Having worked on major sporting events and public spectacles for years, I could see that powerboat racing had all the right ingredients to be successful as an event – if only it could get some of its act together. I was honoured to help

"I think the unique challenges that the Irish coastline will deliver are going to make for incredible racing"

Mike in his original plans, and when they didn't work out, a group of us came together to see if we could deliver Venture.

What makes this event unique as regards the racing itself?

There are a few things. Firstly the race sits in the middle of a very large and very mainstream event. This is critical as the funding and media exist around events, not powerboat racing. The second is that we've gone for just the one solid event a year, rather than a

championship of racing across many months. In doing this, we can focus all our energies on the one time period, which makes it easier to sustain interest while also making it easier for teams to enter.

What promises to make this event special in addition to the racing?

For this year I think the unique challenges that the Irish coastline will deliver are going to make for incredible racing. Couple that to the wonderful reception and parties the teams will enjoy each evening and you've got something very special indeed.

How is it all funded and who are its backers or sponsors?

After what happened previously we felt that we needed to simply deliver something solid and professional for 2016, and that's exactly what we're

doing. The big brands won't jump across to powerboat racing until they begin to see some real tangible benefits, so we've been fortunate in securing enough money from the Irish public sector to fund 2016. Now that we're up and running, the 'brands' are taking notice and starting to come in around the race.

What types of boats are taking part and what are the costs to enter?

All entrants are in line with what we've all come to know as 'marathon' boats. It's a varied mix, from the lunatics in the tiny Team Beaver right up to the 50-foot monsters. All are monohulls, but outside of that you couldn't find a more varied fleet – and that's great. Some boats will be great in the really rough stuff, but don't have the enormous top-end speed that others can reach on calmer days. Over the course of the 1,000+ miles,



everything should balance itself out nicely. Because we're now funded we've kept the entry fee down to a minimum [€500 per boat], and that fee ultimately goes into an innovation fund that will be awarded at the closing weekend of the race.

Will the Venture Cup be an annual or ongoing/rolling event?

Yes, most certainly. We've got plans in place right now up to 2022 when we'll successfully rerun the London to Monte Carlo exactly 50 years after the first and only running of the race. In the intervening years, the plan is to rotate the racing between the USA and Europe.

What support systems have you in place regarding safety at sea?

By its very nature, marathon racing requires the fleet to be largely self-sufficient. However, we've put in place an entirely bespoke tracking system

– thanks to the great team at Plant i in Wales – and Richard Salaman is being extremely proactive in ensuring our race safety is the very best it can be.

Do you expect any opposition to this event from any quarter?

Not at this stage. Perhaps earlier in our planning, but everyone and everything is now mostly either in place or at an advanced level of planning.

When will the final programme, along with the details of the confirmed teams, be released?

Obviously we've got requirements on when the full race instructions are published and we plan to be ahead of that. We'll be releasing team details in batches as we progress.

What has been your biggest challenge in terms of the staging of this event?

There's been quite a few! Overall I

guess it's been trying to move the sport back into the sunlight. There's nothing quite like it and we've all got a huge passion for it, but the rest of the world has moved away from us, so that takes a lot of energy to bring it back in front of them.

What do you think teams will value the most in terms of experiences gained through having taken part?

We would hope that it'll be 'confidence'. Confidence in us that we can deliver good exciting racing for them, confidence that we'll do things professionally and with them at the centre of our plans, and ultimately confidence that we have the sport's best interests at heart.■



FEEL THE NOISE: international powerboat race launches in Dublin – Venture World Cup 2016

Dublin City's Custom Quay was the host for guests and celebrities as they gathered to launch Venture World Cup Ireland 2016. Having won the right to host the world's most exciting festival of powerboat racing, which promises to fire Irish imaginations and put the country on the map as a global marine event organiser, the Venture World Cup was officially launched by An tArdmhéara Críona Ní Dhálaigh.

The race, which takes place in Ireland in June, will see 25 of the world's best teams battling it out over seven days

of incredible action on the water in a spectacle only matched by the party in each of the ports en route. The launch saw some of Ireland's most well-known personalities join the An tArdmhéara on Dublin's Docklands to 'feel the noise', including hotelier and RTE star John Brennan and Anthony Middleton from Channel 4's SAS: Who Dares Wins, who all came together to witness the spectacular sight of three world-class powerboats roaring into Dublin's quays.

'Hosting the final stages of the

Venture World Cup in Dublin promises to be a highlight in the city's calendar of events for 2016,' said An tArdmhéara, Críona Ní Dhálaigh. 'As host partner, Dublin City Council looks forward to working with the Venture Cup team and Dublin Port to deliver a unique shore-based festival experience to complement the spectacular water sport activity in Dublin Bay. I am delighted to welcome the 25 teams taking part in this prestigious sporting event, which will showcase Dublin's capacity for hosting international sporting



Left to right: Simon Coveney, Eamonn O'Reilly, Chief Executive of Dublin Port Company, Críona Ní Dhálaigh Lord Mayor of Dublin, Aiden Foley (Venture Cup Director), Anthony Middleton



events yet again to a global audience. Tugaim fáilte roimh gach duine chuig Baile Átha Cliath don ócáid speisialta seo.' (I welcome everyone to Dublin for this special event).

Billed as the world's longest, toughest and most prestigious powerboat race, the Venture World Cup features the biggest, loudest and fastest boats in the world. As well as the top names from powerboating, the crews include supermodel David Gandy and motor sport legend Bruno Senna. The epic adventure begins in Cork on June 10th, and will take in many of Ireland's coastal towns along the journey to the finish line in Dublin.

The organisers have chosen Ireland, and its Wild Atlantic Way, as the venue for the race as it offers some of the most challenging and demanding racing in the world. Racing 200 miles a day, the event will stop in Dingle, Galway, Killybegs and Belfast.

Venture Cup Racing Director and multiple world powerboat racing champion Peter Dredge said: 'This is going to push teams and their race boats to the absolute limit. The wild Atlantic coast of Ireland is no place for the faint-hearted, and only the bravest and best prepared will succeed.'

Minister for Agriculture, Food and the Marine Simon Coveney added: 'The event will link up so many of the coastal towns of this island. This will be one of the biggest events the country will witness this summer, and it will capture the imaginations of both Irish people and those wishing to visit the country this summer. It's not only a high-end offshore powerboating race, but a major international spectacle that will put Ireland on the map for big marine-based events.'

As part of the launch proceedings it was announced that the charity Haven will be the global charity party for the Venture World Cup. Haven works solely in Haiti, empowering Haitians to build strong and sustainable livelihoods. It is working tirelessly on the ground providing shelter, access to clean water and employment opportunities to thousands of struggling families.

Leslie Buckley, founder and chairman of Haven, said: 'Haven is delighted to be chosen as the global charity partner of the Venture Cup, which is a tremendously innovative and exciting sporting event destined to bring the international sporting spotlight to Ireland. This is a huge honour for Haven and will allow us to reach a new platform to raise vital funds for our extensive work on the ground in Haiti, which needs ongoing substantial funding and support to continue.'

The momentous seven days of racing will finish in Dublin, where a celebration of epic proportions awaits. More than 500,000 spectators are expected to fill Dublin's docklands and Dublin Bay for daytime racing and evening parties between June 17th and 19th.

Fáilte Ireland will be supporting the Venture World Cup as one of their key events in Ireland this summer. 'Fáilte Ireland is delighted to support the 2016 Venture Cup in what is sure to be an eventful and thrilling race,' said a spokesperson. 'International events such as this are not only an important draw for overseas visitors, they also provide an incredible opportunity to attract future visitors to Ireland as scenes from the race are broadcast across the globe. This year, as the teams navigate their way through the breathtaking Wild Atlantic Way before arriving in Dublin's

action-packed coast, we have no doubt that visitors and viewers alike will see that Ireland has something to offer that is unlike any other destination. We look forward to welcoming the teams, their crews, families and friends in June.'

While the action will be on the high seas, and the celebrations will be in some of Ireland's best cities and towns, Minister Simon Coveney believes the international spotlight will significantly boost Ireland's blue economy, bringing jobs and tourism to the country as well as showcasing Ireland's incredible coastline. 'The technology involved in an event such as this further showcases the development and research currently being carried out in marine-based events, and Ireland will be at the forefront of this industry,' he added. 'On so many levels, this is an incredibly positive event for Ireland and we are very lucky to be able to host it in 2016. The Venture World Cup offers us another opportunity to demonstrate everything Ireland can offer as a sports tourism destination, a centre for marine-based excellence and a spotlight on our magnificent Wild Atlantic Way to the rest of the world. I am truly looking forward to being part of Venture Cup Ireland 2016.'

You can discover all you want to know about this epic event via the website: www.ventureoffshorecup.com.



Left to right: Aiden Foley, Adam Brennan, Peter Dredge

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RYA
WITH
KARENZA
MORTON

'Many of the kids who compete in the Championship go on to contribute hugely to their clubs as volunteers and in many other ways, which is fantastic to see.'

Jordan trophies



Honda RYA Youth RIB Championship Turns 15

PBR reflects on the success of the Honda RYA Youth RIB Championship as a vehicle for bringing new talent into the sport of powerboating as it celebrates its 15th anniversary.

AS BRITAIN'S LEADING programme for introducing kids to powerboats and training them to be safe, proficient drivers and excellent boat handlers, the Honda RYA Youth RIB Championship is this year celebrating its 15th anniversary. With the emphasis on swift, efficient and safe manoeuvring, the skills developed through the programme are a great way for youngsters to experience the thrill of racing while at the same time becoming capable powerboat drivers.

With the 2016 regional heats set to blast off in May, a new wave of young powerboaters from across the country have the chance to emulate past competitors and champions, as they battle it out on the water for one of the coveted places at the national final. Heats will take place in all 10 of the RYA regions and home countries, with the winners in each age category (8–12 and 13–16) then going on to compete at the

2015 13-to-16 years winners



national final held at the Southampton Boat Show in September. First created in 2000 by RYA Powerboat Projects Manager and Event Director Andrew Norton to offer children from the age of eight a fun, safe and enjoyable way of honing essential skills, the Championship has proven to be a huge success during the following 15 years. With around 400 children participating in its first year, by 2015 the Honda RYA Youth RIB Championship had more than 5,000 people competing in club heats and regional finals, with 27 youngsters across both age categories going on to contest the national final.

Andrew says: 'Some clubs would only allow people aged 16 and older to handle RIBs, but that is the wrong way to do it. If you start training them from eight years old, children are more receptive and develop key skills earlier. We came up with a really simple course containing elements of the RYA Powerboat Level 1, but it was against the clock, which made it fun and added a competitive edge.' Andrew also praised the work of the organising team behind the competition, many of whom have been involved from the start.

Remarkably, the current Honda RYA Youth RIB Championship Event Manager, Tom Busfield, began his involvement with the competition as a competitor in 2002. Having reached four national finals by 2007, Tom then became a regional event organiser, before moving



If you start training them from eight years old, children are more receptive and develop key skills earlier.

to his current role in 2013. Andrew believes Tom's progress, alongside the many other graduates of the programme who now organise events and coach current competitors, is testament to the long-term value of the Honda Youth RIB Championship. 'Tom works incredibly hard in this role, and is really good at encouraging the kids who take part,' he enthuses. 'All of the volunteers put in a tremendous amount of effort, and it

really is worthwhile when you see the end results, not just immediately after but years down the line. Many of the kids who compete in the Championship go on to contribute hugely to their clubs as volunteers and in many other ways, which is fantastic to see.'

A number of previous competitors have gone on to achieve significant success in powerboat racing, including former champions Jordan Muckles and Steve



Jordan Muckles Boat





Curtis. Having claimed the Honda Youth RIB national title in 2007, Jordan has gone on to become one of the foremost young powerboat racers in the UK. In recent years, Jordan has racked up a succession of national and world titles in various disciplines, including the 2013 GT30 British Championship. He now races in Formula 4 while training as an electrical apprentice, and hopes to be able to pursue racing full-time in the future.

'I got spotted when I was out driving my dad's fishing boat,' recalls Jordan. 'From there I've gone on to win the Honda Youth RIB title and three world gold medals in Formula Future in Liverpool. I'm lucky to be where I am now. If it wasn't for my experiences with events such as the Honda RYA Youth RIB competition, I wouldn't be competing in international events. Racing powerboats has taught me responsibility and maturity, and everything I've done has come from it. I would never have seen myself where I am now, but being involved in powerboating has given me a great platform in every respect.' Fellow former champion Steve Curtis now dedicates his time to helping stars of the future perfect their powerboating skills. Having started powerboating aged just six at Paxton Lakes, Curtis has since dedicated much time and effort to coaching youngsters in the Eastern region.

'I started at Paxton Lakes when I was about six,' says Steve. 'We went for a drive and it felt really good and natural. From there I just kept practising and doing courses. If I'd never have done

it, I wouldn't have met so many friends or visited so many places – it's done wonders for me. I've recently been coaching young sailors at Grafham Water, and for the last two years I have had kids on the water as young as eight doing powerboat training. Last year one of our kids made the national final, which shows how far we've come. The Eastern regional final was held at Grafham this year, which is something I'm really proud of making happen.' The Honda RYA Youth RIB Championship national final winners in 2015 were presented with brand-new

RIBs for their clubs. Max Mawer, 16, from Girton Sailing Club triumphed in the 13–16 age category, while Derwent Reservoir Sailing Club member Ollie Pirt won in the 8–12 group. Thanks to his victory, Max won a Highfield 460 RIB with a Honda BF50 engine for Girton SC. Of the prize, Max said: 'I'm now hoping to be able to train younger people in the club, and it would be great to one day help some of them compete in the Honda RYA Youth RIB finals too. Taking part in the Championships during my teenage years has been a very enjoyable experience, and to be able to race powerboats safely is awesome!' Ollie received a Honwave T40 RIB with a Honda BF20 outboard for his victory. He said: 'I couldn't have won the Championship without a lot of help. I'm going to do my safety boat course and begin my RYA Powerboat Instructor's course next spring.'

The fast RIB will become part of the Derwent Reservoir Sailing Club safety boat fleet – a valuable asset to the club and crucial if the club is to attract more national sailing championships to the area in 2016. **PBR**

Special thanks to Championship sponsors Honda and Highfield. For more information about the Honda RYA Youth RIB Championship visit www.rya.org.uk/go/hondayouthrib

The Honda RYA Youth RIB Championship national final winners in 2015 were presented with brand-new RIBs for their clubs.





How to *green* your motor boat!

At the helm

Good use of the throttle and boat handling skills can reduce wash which can erode banks and disturb wildlife.

Galley

Reduce waste onboard by leaving excess packaging at home and using reusable containers. Recycle waste whenever possible.

Deck

Cigarette butts last up to 5 years and often eaten by birds. Use a butt box and don't let your ends go overboard!

Anchor

There are many vulnerable seabed species so be careful where you anchor and beware of dragging.

Refuelling

If you spill fuel never use detergents on it, this can be even more damaging to aquatic life.

Engine

It is illegal to let oil enter the water - check before pumping your bilge. Install a filter and put a bilge sock in to mop up spills.

Hull

Most antifoul contains pesticides and other toxins, take care not to breathe in the dust and prevent scrapings from entering the water.

Heads

Give consideration to the environmental sensitivity of an area e.g. shell fish beds, bathing waters etc before using your sea toilet.



RYA

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ESTATE



PAUL GLATZEL:

Paul Glatzel is an RYA powerboat trainer and wrote the RYA Powerboat Handbook and the RYA Advanced Powerboat Handbook. He runs Powerboat Training UK in Poole and Lymington (www.powerboattraininguk.co.uk) and is a sea safety advisor for the RNLI.

**LET'S GO
BOATING**
GETTING
AFLOAT

Man Overboard!

Wearing seat belts and installing smoke alarms are among the many things we do to improve safety while hoping we never need to use them in anger. Preparing and practising for a 'man overboard' is no different, as Paul Glatzel explains ...

EACH YEAR PLENTY of people fall out of boats. Most of the time recovery of the person in the water is easy – perhaps they swim to the boat, perhaps you throw them a line, perhaps they climb onto a pontoon. Such incidents are looked back on as part of our boating experience that helps us to get better and safer when afloat. But not all man overboard incidents end well – the weather conditions may make returning to the casualty tricky or recovery from the water a challenge. This is why responding and dealing with a man overboard forms such a key part of all RYA powerboat courses at all levels, and why the RYA has developed recommended actions when responding to an incident.

Like anything in life, knowing what to do and being able to do it when trouble strikes are two completely different things. The difference is usually practice,

At the start of each season, spend an hour or two practising with your regular crew.

so in this article we'll look at what to do and how to get better at returning to and recovering a casualty.

RYA powerboat courses teach methods to respond to a man overboard and return to them, but of course it is better not to suffer one in the first place. People get ejected from powerboats for various reasons, but it is safe to say that most of the time it's the skipper's fault. Passengers need to be seated with good handholds, driving needs to be adjusted for the conditions and seating arrangements need to be correct. For example, sharp

turns with people seated on raised bench seats in RIBs with no sideways restraint risk rapid ejections from the side of the vessel. Overboard situations occur at slow speed too, so crew on deck working lines need good handholds and must keep their centre of gravity low if working forward. Don't forget communication too – flooring the throttle while no one is holding on will have a pretty predictable outcome.

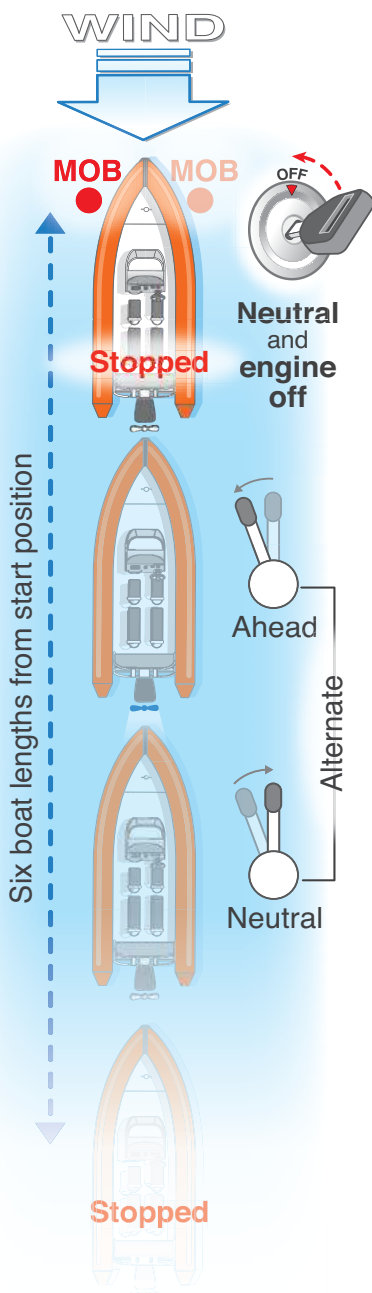
So what is the process for responding to a 'man overboard', or MOB? RYA courses teach a staged process. Assuming that the craft is proceeding 'on the plane', immediately an MOB is noticed several things need to happen almost at once. The skipper needs to steadily but positively reduce speed in a straight line. Avoid rapid or high-speed turns back towards the casualty as that risks more people going overboard. At the same time, shout 'Man overboard!' and get one person to point at the casualty. They should not stop pointing until the boat is alongside.

... getting early coastguard input may assist with medical issues such as shock, hypothermia and secondary drowning.



METHOD 1 – INTO THE WIND

- Position your vessel about six boat lengths downwind and stop. Alternate between forward gear and neutral to progress slowly at minimum speed towards the casualty.
- One side of the boat may be preferable for the approach due to more space or a better view.
- With a slow approach, using reverse to reduce speed should never be necessary.
- At point of contact, neutral and engine off.



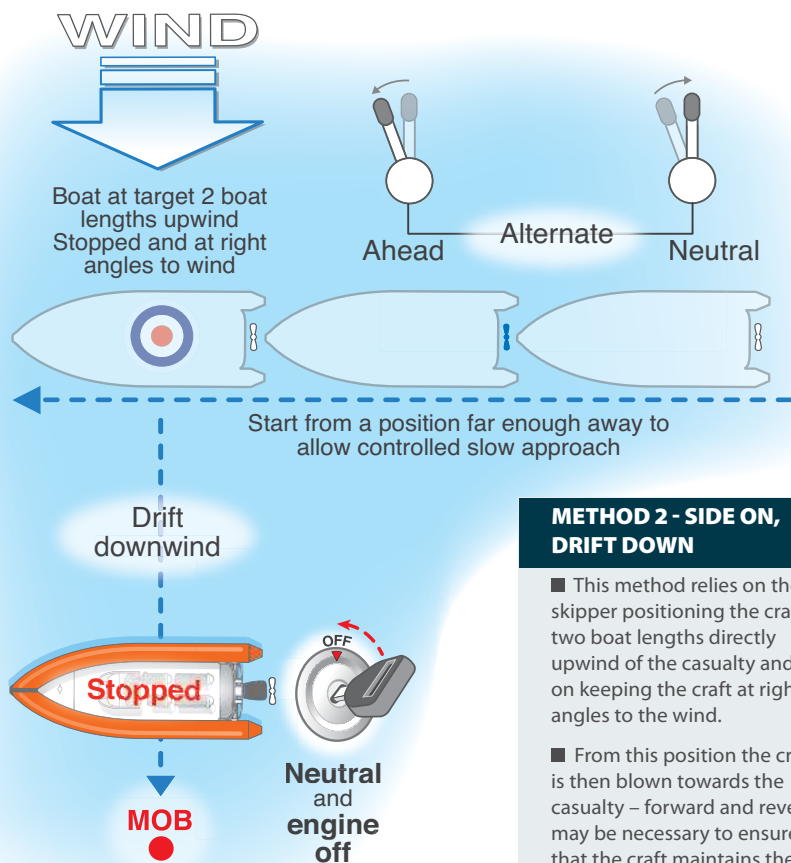
People get ejected from powerboats for various reasons, but it is safe to say that most of the time it's the skipper's fault.

The RYA, RNLI and coastguard position is that at this stage it's recommended to issue a distress call as almost without exception the MOB represents a 'grave and imminent' danger to life. It's easy to think that you'll sort the MOB with no issues and go straight to the recovery, but in my experience, when under pressure, unless a skipper is well practised and experienced, the adrenalin and worry that an MOB creates give rise to 'variable' boat-handling skills. Make the RNLI aware so they are heading to launch and can be stood down – this is much better than wasting 10 minutes failing to recover, then calling. Equally, getting early coastguard input may assist with medical

issues such as shock, hypothermia and secondary drowning. Pressing the red DSC distress button then issuing a full Mayday message would be ideal. If not, the DSC button and a brief message – 'Mayday vessel Tempest, dealing with MOB, stand by' – will confirm the DSC call and, with the position from the DSC alert, the coastguard will task resources towards you.

Your job at this stage as skipper is to decide what the wind direction is as this is critical for the approach to the person in the water. The RYA teaches two directions of approach to a casualty in the water. Every year I am shown other approaches by skippers that will often work, but by using (and just as importantly, regularly practising) the two recommended methods you are keeping it simple and using methods that have been proven to work over years of practice and testing.

This method of approach suits craft with good access to the bow area. In rougher conditions the rise and fall of the bow can be dangerous and intimidating for the person in the water. A boathook and



METHOD 2 – SIDE ON, DRIFT DOWN

- This method relies on the skipper positioning the craft two boat lengths directly upwind of the casualty and on keeping the craft at right angles to the wind.
- From this position the craft is then blown towards the casualty – forward and reverse may be necessary to ensure that the craft maintains the correct position. Again upon contact, neutral and engine off.

... the adrenalin and worry that an MOB creates give rise to 'variable' boat-handling skills.

throw line should be available to increase 'reach' from the craft.

This method works for all powered craft and especially suits those where bow access is limited. A common question raised by people is whether it is dangerous to be side on to the wind/waves and whether the craft will be blown over the casualty. It is true that in breaking seas being beam on to the waves is highly dangerous, however in most windy conditions the waves are not actually breaking, so they pass beneath the vessel and are thus not overly dangerous. The method works well and gives a far larger target area, and is less intimidating for the person in the water.

Both methods are taught (or brushed up on) on all of the powerboat courses (Level 2, Intermediate and Advanced), but there is little point in just experiencing them there. The RNLI's coxswains don't become highly accomplished at recovering people by just doing a recovery from time to time; they practise repeatedly – and so must you! At the start of each season, spend an hour or two practising with your regular crew. Deploy a weighted fender or a half-full



water bottle (never use a real person – it's not worth the risk) and then practise the two approaches until they become straightforward. When you go out next and it's a bit windier, try again as it's important to keep practising in varying conditions to keep your skills up. Make sure too that you get the other members of your crew to practise with you not saying a word and pretending not to be there – after all, it could be you they are coming back for!

Getting the person alongside the craft is only half the battle, though, and you will need to develop a plan for getting an MOB back on board. On RIBs it's pretty easy (relatively!) as the tubes are usually low and if needed you can deflate them to further reduce the freeboard. A person may be able to use parts of the engine as

a step (engine off and kill cord out), and of course there may be a ladder that can be deployed from a swim platform at the stern. Whatever method is chosen, it's worth being really clear about the plan and ensuring all on board know how it will work.

Don't forget the need for some medical advice for the person that has been in the water. Even if you recover the person immediately, chat things through with the coastguard because if they have ingested water there could be life-threatening consequences over the following few days.

Hopefully you'll never have to deal with an MOB from your craft or anyone else's. If you do, though, the practice you put in following this article will certainly stand you in good stead. Have fun afloat! [PBR](#)



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Figure 1 – Gear case drag is often the primary contributor to drag on a high-performance powerboat.

'Big Foot' Investigation

SPEED
SALT OR FRESH
WITH JIM
RUSSELL

Jim Russell, of AeroMarine Research, explains how lower-unit gear case design affects drag and performance.

THE OUTBOARD or sterndrive lower unit is a necessity to provide the system for transferring engine power to the water (through propeller thrust), to supply engine cooling water pickup and to maintain the physical water contact needed for control of the boat. Today's lower units perform all of these functions very well; however, the mere existence of the gear case submerged at high speed generates hydrodynamic drag, and this is often the primary contributor to drag on a high-performance powerboat – and the #1 determinant of ultimate speed.

GEAR CASE DESIGN

Gear cases have changed dramatically over the years as designers and manufacturers have realised the tremendous impact of aerodynamics and hydrodynamics on hull performance. Today, outboard engine and outdrive design has reached a point where model changes can be dictated by the design of the gear case.

The make-up of the hydrodynamic drag generated by the lower unit is complex. The fluid flow around the lower-unit

components exists in combinations of water, water vapour (cavitation), air and exhaust gases. All of these constituents and fluid phases are exposed to interaction with the lower unit. There are many different designs of gear cases in use today and every boat has the lower unit set up a

little differently.

The individual components of the gear case design that contribute to the total appendage drag include the skeg, the leg, the torpedo and the propeller. Their contributions vary depending on design configuration and velocity. (See Fig 2)

SOURCES OF LOWER-UNIT DRAG

Hydrodynamic drag is generated by each of the key drag contributors based on the conditions throughout the entire operating velocity range. Motor height and trim angle affect how much of the drive unit is immersed in flow, generating drag. The contributors to total drive unit drag include components of friction drag, pressure drag, spray drag and induced drag from:

- Torpedo drag – submerged and partially submerged blunt and streamlined shapes with cavitation and ventilation
- Skeg drag – thin strut in turbulent flow
- Leg drag – surface-piercing strut exposed to spray drag
- Induced drag – from lifting and side forces generated by lower unit
- Spray drag – from surface-piercing surfaces.

Raising the height of an outboard engine on the transom reduces the amount of lower unit exposed to water flow and reduces drag dramatically.

LOWER UNIT DRAG

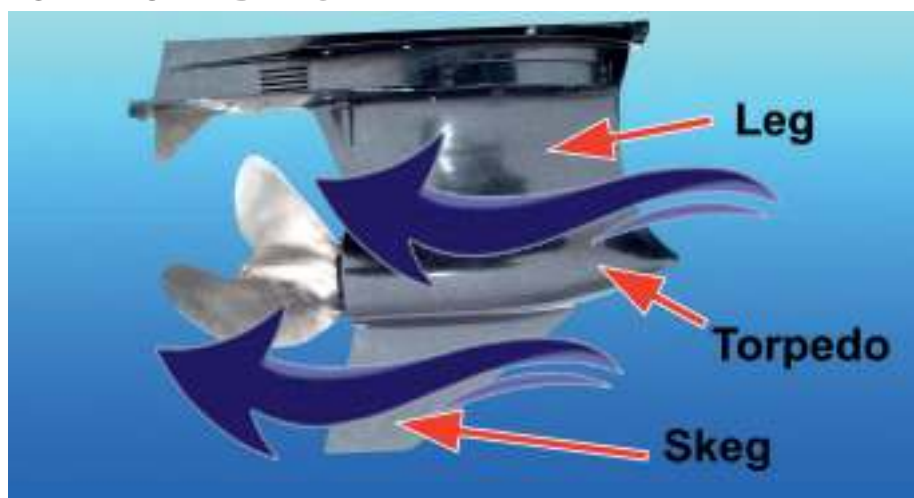


Fig2 – Components of gear case design contributing to the total drag, inc. skeg, leg, torpedo and propeller.

LOWER UNIT/DRIVE DESIGN

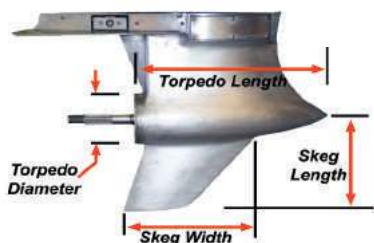


Figure 3 – Drag-producing parts of lower unit.

DRAG-PRODUCING PARTS OF THE LOWER UNIT

Design features that influence the amount of drag that is generated include:

- Torpedo diameter – a smaller-diameter housing generates less drag than a small torpedo
- Torpedo length – length of torpedo housing (leading edge of torpedo to aft edge of torpedo, at prop shaft); longer torpedo (higher length/diameter ratio) is more energy-efficient
- Torpedo shape – streamlined designs can reduce drag more than blunt shapes. (See Fig 3)
- Skeg width & length – width (leading edge to back of skeg) and length (top of skeg to bottom) of drive skeg can provide better control but generates more drag
- Skeg & leg thickness – more robust thickness of lower-unit skeg and leg components has more rigidity and durability but creates more drag.

HIGH-PERFORMANCE PRODUCTION GEAR CASES ARE NOW AVAILABLE

For many years, the best way to get a more streamlined lower-unit design was with a Mercury Racing Sport Master or Torque Master gear case, or buy a nose cone kit from a high-performance aftermarket supplier. Mercury Marine eventually supplied production gear cases (including some OptiMax and Verado outboards), based on technology from their Racing Division, that have more streamlined shapes and additional water pickups in the nose.

Other outboard manufacturers soon followed suit, such as Evinrude's SLE gear case on the E-Tec High-Output engines, Yamaha's SST gear case on VMAX SHO models and the high-performance gear case on Suzuki's DF 300 outboard.

The latest production high-performance lower-unit designs include low-water pickup, a longer and more streamlined

torpedo, a more slender strut and a thinner skeg.

TORPEDO DESIGN

The lower unit houses the gears that transmit the engine power to the propeller and for shifting to forward/neutral/reverse rotation directions. More robust materials and design of gears, shafts and bearings can hold up more reliably to the rigours of today's high-powered engines. The manufacturer must balance reliability with the size of the gear case since large components can generate more hydrodynamic drag at speed due to the bigger gear case dimensions.

Torpedo size



Figure 4 – The gear case must be sufficient to house the gear train, but a larger-diameter torpedo means more drag.

SKEG DESIGN

Performance boaters often overlook the skeg. In general, the less drag-creating 'profile' in the water, the better. A thinner skeg produces less drag, as does a shorter one. Of course, if it's too thin there is a risk of fracture during high-stress operations like turning. And the shorter skeg provides less control surface in the water – which can be important on high-performance boats that fly with little else touching the water.

On today's high-performance boats, torque steer can be a major issue. This can be offset by a riveted-on triangular piece or welded anti-torque tab (some OEM units have a cast-in torque profile) at the rear of the skeg. These help to reduce torque, and are best if they are blended into the skeg without thickening the trailing edge of the skeg. Gear cases with this modification are much more efficient, and can improve performance by as much as 2+mph.

BLOWOUT

Blowout occurs when the water strikes the gear case at such a velocity that it separates from the leading edge (front) of the gear case and bypasses the propeller.

This causes the propeller to 'lose its bite' and usually results in overrevving the motor – the boat will lose speed and lift, and sometimes turn out of control. The main contributors to blowout are gear case design, the motor being too high, hull design and speed. The cause of blowout is typically a combination of all of these. Gear case modifications and propeller changes can reduce your chance of blowout (see Powerboat & RIB magazine, April/May issue 2011).



Figure 5 – High-performance gear case design can reduce the susceptibility to dangerous blowout.

HOW IT WORKS

A smaller torpedo diameter is often the secret to a faster and often better-handling gear case. For example, some stock V6 outboard gear housings measure 4¾" in diameter at the rear of the torpedo, while a high-performance housing may be smaller at 4¼". Some big-block engines have gear cases that are 5½" in diameter. A smaller diameter pushing through the water means lower drag, especially at higher velocities.

Our AeroMarine Research software for powerboat design (TBDP/VBDP) shows us that the difference between a 4¾" and 5½" diameter gear case can have the effect of +100lb more drag at 80–90 mph, which can mean a 4–5 mph increase in speed.

The relationship between torpedo length and diameter is called the 'aspect ratio'. The longer the torpedo is when compared to its diameter, the higher the aspect ratio. As the aspect ratio increases, the gear case becomes less susceptible to crabbing, inefficiency, poor handling, propeller ventilation and blowout. Extending the stock gear case bullet with a nose cone will increase the aspect ratio and improve performance.

STERN LIFT

A longer torpedo length has excellent performance (drag) advantages through superior water flow characteristics. It also

LOWER UNIT DRAG - VS - VELOCITY



Figure 6 – The difference between a 4¾" and 5½" diameter gear case can have the effect of a 4 to 5 mph increase in speed.

has a tendency to increase stern lift. An optimised shape design of the torpedo leg/skeg attachments can balance the lift generated by the longer torpedo. Some hull types benefit from more stern lift, while others behave better without it – so there is much that can be offered through the different performance lower-unit designs.

HEIGHT MATTERS

Raising the height of an outboard engine on the transom reduces the amount of lower unit exposed to water flow and reduces drag dramatically. It's important to ensure that the engine is always getting sufficient cooling water when raising the engine height. High-performance lower units with low-water pickups enable gear cases to operate at elevated transom heights for maximum efficiency and speed (see *Powerboat & RIB* magazine, January 2011 issue).

MORE ALTERNATIVES

Mercury Racing's Sport Master gear case has been, for many years, the 'performance industry standard' by which all others are measured – it's pretty hard to beat!



Fig7- The Mercury Racing Sport Master gear case has been the 'performance industry standard' for high-performance applications (left); IMCO Marine SCX drive boats offer high performance and reliability (centre); Arneson ASD 'surface drives' offer a different drive alternative that dramatically reduces drag (right).

OEM engine manufacturers are now all providing well-engineered, reliable, high-performance lower units, and there are also high-performance third-party alternative manufacturers. IMCO Marine and Steckbauer Speedmaster, for example, build well-recognised gear drive units that boast performance and reliability for ultra-high-performance enthusiasts and racers. Surface drive designs, such as the Arneson ASD series drives, offer a completely different drive alternative that dramatically reduces drag for sterndrive applications.

THE BOTTOM LINE

There's a lot more to lower-unit design than it seems at first glance. At higher speeds, the gear case drag can be the chief contributor to speed limitation. Today's OEM designs take advantage of much of the hydrodynamic technology that we've learned over the past years. There are still opportunities to improve performance by modifying the gear case to meet your operating needs. Whether by reducing drag, eliminating blowout or changing the lift created by the lower unit, the results can be faster and safer high-performance operation. Safe performance boating! **PBR**

INFO:

Read more about performance vee hull and tunnel boat design and set-up in *Secrets of Tunnel Boat Design* (ISBN# 1-894933-30-3).

See more about the 'Tunnel Boat/Vee Boat Design Program' software at www.aeromarinerearch.com/tbdp6.html.



Links for reference:

The *Secrets of Tunnel Boat Design* and *Secrets of Propeller Design* books and the 'Vee Boat Design Program', 'Tunnel Boat Design Program' and 'PropWorks2' software, for speed prediction and propeller selection, are available on the AeroMarine Research website at www.aeromarinerearch.com.

About AeroMarine Research

Jim Russell is a professional engineer with a mechanical and aeronautics background. Currently living in Canada, he has done extensive aerodynamic research at the University of Michigan, OH, and the University of Toronto, Canada, and marine research at the NRC water channel laboratory in Ottawa, Canada. His published works and papers are highly acclaimed, and are specifically related to the aerodynamics and hydrodynamics of high-performance catamarans and tunnel boats, and vee and vee-pad hulls. Russell has designed and built many tunnel and performance boats. As a professional race driver, he piloted tunnel boats to Canadian and North American championships. He has written powerboating articles for many worldwide performance magazines and has covered UIM and APBA powerboat races. He has appeared on *SpeedVision's* Powerboat Television as a guest expert on 'tunnel hulls', was performance/design technical consultant on *National Geographic's* Thrill Zone TV show and editorial consultant on the Discovery Channel's *What Happened Next?* TV show. Russell is the author of the books *Secrets of Tunnel Boat Design* and *Secrets of Propeller Design*. His company has designed and published the well-known powerboat design software 'Tunnel Boat Design Program' and 'Vee Boat Design Program', specifically for the design and performance analysis of tunnel boats and powered catamarans, as well as performance vee and vee-pad hulls.

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Q&A Time

David Martin **Technical Director of Swaymar Marine, bespoke marine petrol engine specialists, answers your questions...**



Mains: Dart blocks with four-bolt splayed main bearing arrangement.

Hi. I have a Cranchi Turchese 24ft with a 5-litre Volvo Penta outdrive and I always felt that it could use a bit more power. I use it a lot and the engine has 700 hours on it now, and is definitely tired. It is down by some 5–6 knots and the hull is clean, so it is not that. Rather than replace the existing engine I would like to give it some real performance without going to a bigger petrol engine, which would affect fuel consumption and no doubt cost a lot to install. Is this achievable, please?

Chris, Brighton.

Hi, Chris ... Lovely boat, but I think you have the smallest engine option. They even came with a big-block 7.4L option; however, the big block, while being a superb engine, does come with a weight penalty. I would go down the route of keeping to a small-block V8 engine like you already have, which comes in many variants. A bespoke 6.5-litre small-block V8 would suit you perfectly, as it has the same footprint and fittings as your existing engine. We do these all the time, and if you get the cylinder heads fitted with the bigger valves' 2.02" inlet

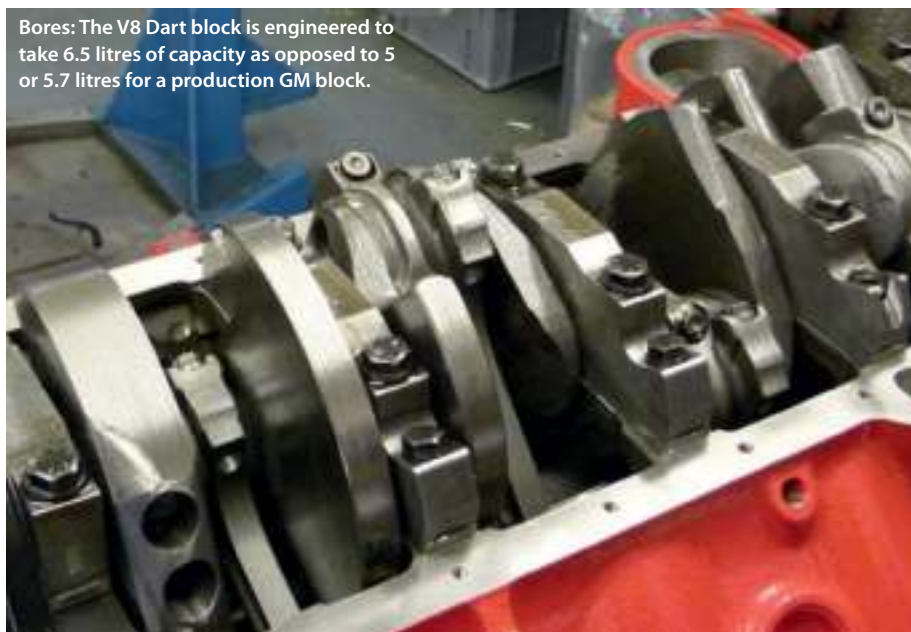
and 1.6" exhaust, the extra breathing will allow you to use a high-torque cam. This combination will give you a massive torque curve at around 450ft/lb peak. You will be able to fit much coarser pitch props, which means that for any given speed you will be pulling a lower RPM, hence good economy, but when you hit the throttle that torque will rocket

you onto the plane even with the whole family on board.

One word of warning: whoever you get to supply your engine, make certain they start with a special block designed to take those big pistons, and don't just bore out a standard GM block. With a standard GM block the bores often split because they are so thin. On the ones we build we use 'Dart' blocks, which are a superb design and immensely strong. It is not just the bores but also the way they stiffen up the bottom end with a four-bolt 'splayed' main bolt arrangement. Many reputable engine builders use these superstrong blocks.

Alternatively you could buy an off-the-shelf engine from MerCruiser as they recently brought out a purpose-built 6.2L V8 marine engine at the Southampton Boat Show. Not being a converted automotive engine, which Volvos and MerCruisers have traditionally been for decades, it is a compact and light power plant. However, though very reasonably priced for a new engine, it is likely to cost what your boat is worth and more, especially as the package includes a sterndrive. It is certainly worth considering, though. [PBR](#)

Bores: The V8 Dart block is engineered to take 6.5 litres of capacity as opposed to 5 or 5.7 litres for a production GM block.





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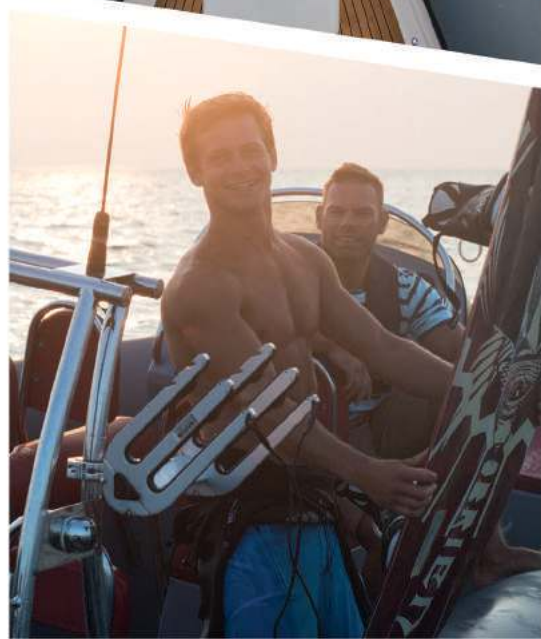
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